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# Space Shuttle Wind Tunnel Testing Program Summary

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## NOMENCLATURE

### Symbols and abbreviations

|                 |   |
|-----------------|---|
| $\bar{c}$       | Mean aerodynamic chord, MAC                   |
| CF <sub>4</sub> | Freon   |
| g               | Acceleration due to gravity                   |
| h               | Altitude                                      |
| He              | Helium  |
| K               | Thousand                                      |
| L <sub>B</sub>  | Body length (of Orbiter)                      |
| m               | Million                                       |
| M               | Mach number                                   |
| MAC             | Mean aerodynamic chord, $\bar{c}$             |
| N <sub>2</sub>  | Nitrogen                                      |
| q               | Dynamic pressure                              |
| Re              | Reynolds number, based on Orbiter body length |
| sec             | Seconds                                       |
| V               | Velocity                                      |
| V'              | Viscous parameter                             |
| X <sub>o</sub>  | Body axis, longitudinal (Orbiter)             |
| Y <sub>o</sub>  | Body axis, lateral (Orbiter)                  |
| Z <sub>o</sub>  | Body axis, vertical (Orbiter)                 |
| $\alpha$        | Angle of attack                               |
| $\beta$         | Angle of sideslip                             |
| $\phi$          | Bank angle                                    |
| $\gamma$        | Flight-path angle                             |
| $\Gamma$        | Universal gas constant                        |
| $\Lambda$       | Sweepback angle                               |

### Abbreviations, Acronyms:

|      |  |
|------|--|
| A    | Aerodynamics - test type designator, or<br>Ames Research Center - test responsibility designator |
| AADS | Ascent air data system   |
| ABPS | Air breathing propulsion system  |
| ADDB | Aerodynamic Design Data Book   |
| ADS  | Air data system (Orbiter)  |
| AEDC | Arnold Engineering Development Center  |
| ALT  | Approach and landing test  |
| AOA  | Abort to once around   |
| ASRM | Abort solid rocket motors  |
| ATP  | Authority to proceed (management milestone)  |
| C    | Carrier - test configuration designator  |
| CAL  | Cornell Aeronautical Laboratory  |
| CDR  | Critical design review (management milestone)  |
| CG   | Center of gravity  |
| CR   | Contractor report  |



|           |  |
|-----------|--|
| DATAMAN   | Data Management System (Chrysler Corporation)  |
| DCR       | Design certification review (management milestone)   |
| DFI       | Development flight instrumentation   |
| ET        | External tank  |
| EPS       | Electrical power subsystem   |
| F         | Marshall Space Flight Center - test responsibility designator  |
| FCF       | First captive flight (ferry program)   |
| FMCF      | First manned captive flight (ferry program)  |
| FMOF      | First manned orbital flight  |
| FRL       | Fuselage reference line  |
| FRSI      | Felt reusable surface insulation (blanket)   |
| F.S.      | Fuselage station, or Full Scale  |
| H         | Heating - test type designator   |
| HRSI      | High (temperature) reusable surface insulation (tiles)   |
| I         | Integrated Vehicle - test configuration designator   |
| IV        | Integrated Vehicle   |
| L         | Langley Research Center - test responsibility designator   |
| L.E.      | Leading edge   |
| LRSI      | Low (temperature) reusable surface insulation (tiles)  |
| LTV       | Ling-Temco-Vought Corporation  |
| M         | Johnson Space Center - test responsibility designator  |
| MCR       | Modification change request  |
| MECO      | Main engine cut off  |
| NASA      | National Aeronautics and Space Administration  |
| -ARC      | Ames Research Center   |
| -FRC      | Flight Research Center   |
| -HQ       | Headquarters   |
| -JSC      | Johnson Space Center   |
| -LaRC     | Langley Research Center  |
| -LeRC     | Lewis Research Center  |
| -MSFC     | Marshall Space Flight Center   |
| NSWC      | Naval Surface Weapons Center   |
| O         | Orbiter - test configuration designation   |
| O/ET      | Orbiter/external tank mated configuration  |
| OFT       | Orbital flight test  |
| OML       | Outer moldline   |
| OMS       | Orbital maneuvering system   |
| OV        | Orbiter Vehicle  |
| PDR       | Preliminary design review (management milestone)   |
| PRR       | Preliminary requirements review (management milestone)   |
| RCS       | Reaction control system  |
| RI        | Rockwell International   |
| RTLS      | Return to launch site (abort)  |
| S         | Solid rocket booster - test configuration designator, or<br>Structural dynamics - test type designator |
| SAL       | (Space) Shuttle approach and landing   |
| S&C       | Stability and control  |
| SCA       | (Space) Shuttle carrier aircraft   |
| SEP       | Separation   |
| SOF       | (Space) Shuttle orbital flight   |
| SRB       | Solid rocket booster   |
| SRM       | Solid rocket motor   |
| SRR       | (Space) Shuttle requirements review (management milestone)   |
| SSECP-WTP | Space Shuttle Engineering Coordination Panel - Wind Tunnel Panel                                       |

|        |   |
|--------|---|
| SSME   | Space Shuttle main engines                            |
| SSPO   | Space Shuttle Project Office                          |
| SSV    | Space Shuttle Vehicle                                 |
| STAR   | Scientific and Technical Aerospace Reports            |
| STS    | Space Transportation System                           |
| T      | External tank - test configuration designator         |
| TAMU   | Texas A&M University                                  |
| TBC    | The Boeing Company                                    |
| T.E.   | Trailing edge   |
| TPS    | Thermal protection system                             |
| TVC    | Thrust vector control                                 |
| V/STOL | Vertical/short take off and landing                   |
| WL     | Waterline   |
| WTO    | Rockwell International - Wind Tunnel Operations Group |
| Δ      | Increment (management milestone)                      |

## ABSTRACT

A major phase of the Space Shuttle Vehicle (SSV) Development Program has been the acquisition of data through the Space Shuttle Wind Tunnel Testing Program. During the early concept studies it became obvious that the large number of configuration/environment combinations would necessitate an extremely large wind tunnel testing program. To make the most efficient use of available test facilities, and to assist the prime contractor for Orbiter design and Space Shuttle Vehicle integration, a unique management plan was devised for the design and development phase (1972 through 1983).

A brief overview of the Space Shuttle Program is given together with the evolutional development of the Shuttle configuration. A detailed review is provided of the wind tunnel testing rationale and the associated test program management plan and its overall results. Also given is information as to the various facilities and models used within this program. A unique posttest documentation procedure is presented. In conclusion, a summary of the types of tests per disciplines, per facility, and per model are presented together with detailed listing of the posttest documentation which is available through Scientific and Technical Aerospace Report (STAR).

## PREFACE

Conceptual studies for a United States Space Transportation System (STS) determined that the large number of configuration/environment combinations would necessitate an extremely large wind tunnel testing program. To efficiently use the available test facilities and to assist the prime contractor for Orbiter design and Space Shuttle Vehicle integration, a unique management plan was devised for the design and development phase (1972 through 1983). This paper presents a detailed review of the wind tunnel testing rationale and the associated test program management plan. Included are tables of the complete wind tunnel program indicating facilities used. Also included are tables of the models, and the overall configuration schedules. The management plan involved facility representatives from the major testing centers. They were briefed regularly on the configuration status and the corresponding test requirements. In addition, the need for an integrated system for processing large blocks of wind tunnel data and for a standardized documentation concept was recognized and incorporated, utilizing automated data handling. Both the management system and the documentation methods resulted in reliable data and an efficient wind tunnel program for the Space Shuttle Vehicle. —

This document should be a guide for future conceptual test planning of wind tunnel programs similar to that for the Space Shuttle. Items addressed are wind tunnel test planning and management, data management and documentation, new supplemental testing techniques, and innovations in model design.

## 1. INTRODUCTION

In late 1960, the National Aeronautics and Space Administration (NASA) explored the feasibility of employing a reusable vehicle for access to low-Earth orbit. Ideally, the desired vehicle would be similar to a conventional aircraft in both design and operation. This would minimize the expense of a single-use launch vehicle. To assess the vehicles' aerothermodynamic performance, concept feasibility studies in Phase A were conducted. The empirical data was relied on for generalized trade-off studies of the configurations selected. Phase B (definition) would rely on simple scaled models by each competing contractor. These scaled models were tested in the more critical aerothermodynamic areas. They were also supplemented by parallel NASA studies on generic configuration trade-offs. Phase C/D would then take the selected contractor, with an essentially frozen configuration, through the design and development stages.

The early feasibility studies determined that many complex configurations would be required to meet the objectives of a reusable vehicle. These configurations would entail an enormous amount of wind tunnel tests. Regardless of which configuration/operational concept combination was selected, many unique configurations from the viewpoint of ground facility tests and model requirements would result. The launch vehicle, whether completely reusable or only partially reusable, would change configuration with each staging. The entry vehicle would have large center of gravity shifts because of the varied payloads to be carried. It also would be subjected to the largest range of velocity, configuration, and environmental combinations ever experienced by a manned vehicle. In addition, requirements for horizontal low-speed flight tests and a "ferry" concept added several new configurations. All of these many combined shapes would require testing for aerodynamics, aerothermodynamics, structural loads, structural dynamics, and stage separation. Thus, even before the STS concept or the prime contractor was chosen, estimates for the amount of wind tunnel facility testing, exceeded that of any other previous aircraft or space vehicle program. To meet these many varied requirements, a new approach was required to coordinate the large number of tests. Also required was efficient use of the available test facilities and developing economical and timely reporting concepts. This would result in reliable data for the design analysts.

This paper (an extension of reference 1) presents the rationale for configuration testing within the basic disciplines. It also describes the wind tunnel program management approach and the documentation procedure. Included are detailed tabular listing of all of the testing that was performed to define the baseline configurations. Also included is the direct-support testing done by the NASA centers. It should be noted that the scope of the material in this paper is intended to cover the prime contractor SSV wind tunnel test program only. That is, the Phase C/D portion which extended from mid-1972 to late 1983.

## 2. BACKGROUND

The preliminary investigations of STS concepts, entitled Integral Launch and Recovery Vehicle Studies, commenced in February 1969, by direction of NASA's Office of Manned Space Flight. Within these studies the major aircraft manufacturers were invited to submit their concepts for evaluation. From these Phase A feasibility efforts, it was concluded that the lifting body, or so called "wingless" class vehicle, would not be compatible with efficient cargo packing and the necessary subsystem arrangements. Nor could this configuration provide the subsonic performance requirements that were needed, primarily lift-to-drag ratio. However, the proposed winged, two-stage vehicle concept appeared somewhat more promising. It satisfied the overall projected mission requirements. The major difficulty of this concept was the design and development of optimum aerodynamic configurations for the individual Orbiter and booster vehicles. Also required was a configuration for the integrated vehicle system. At this point in the program, there were two Space Shuttle Orbiter configuration concepts being evaluated. One was a straight wing design with a horizontal tail (ref. 2). The other was a delta wing design.

Subsequent to Phase A, funding for a follow-on preliminary design study (Phase B) was issued in July 1970 to the participating contractors. At this time the U.S. Air Force added their particular requirements. The major of these involved the areas of payload capability and crossrange requirements. The primary purpose of Phase B was for the contractors to further refine their proposed configurations including the new mission requirements. They also had to prepare a preliminary estimate of the costs. Because of the increasing complexity and expense of the Space Shuttle Orbiter/booster design studies, the contractors organized into teams of two. One concentrated on the Orbiter Vehicle; the other on the booster system. Shortly after, NASA management realized the large ultimate cost of the completely reusable concept. It decided to indefinitely delay the "flyback" booster in favor of an expendable booster. Additionally, it was decided to reduce the Orbiter size to be compatible with the chosen booster system. These design philosophy changes extended the Phase B effort for an additional year. This contract period was referred to as "Phase B Prime."

Following the Phase B Prime study, another extension was initiated. It reduced the fully reusable Space Shuttle Orbiter size further and concentrated on a two-stage, parallel-burn booster system concept. This booster concept was configured as a pair of recoverable 156-inch diameter solid rocket boosters (SRB), with an external liquid fuel tank (ET). They would feed the rocket engines in the Orbiter. This second extension was referred to as "Phase B Double Prime." The configuration results of this phase are shown in Figure 2.1.

In March 1972, NASA issued a request for formal proposals for the design and development of the Orbiter including systems integration, the ET system, and the SRB system. The Rockwell Rocketdyne Division had already been chosen to develop and produce the Space Shuttle main engines (SSME's), in July 1971. In July 1972, Rockwell International (formerly North American/Rockwell) was selected as the prime contractor for the Phase C/D design, development and production of the Orbiter, and the overall integration of the SSV system. In August 1973, Martin Marietta Corporation was awarded the contract for design, development, test, and production of the liquid-fueled ET. In November 1973, Thiokol Chemical Corporation was awarded the contract for the SRB's.

The carrier vehicle concept for ferry and air launch (low-speed flight tests) was originated in late 1973. The original concept of "bolt-on" air-breathing engines had operational limitations with range, increased turnaround time, and recovery from contingency bases. Technical concerns were scar weight to the Orbiter, thermal protection system (TPS) degradation, and possible cargo bay contamination. Studies done by the NASA-Flight Research Center (FRC) as well as other independent studies showed the carrier concept was feasible for both ferry purposes and the approach and landing test (ALT) program. In June 1974, the Boeing 747 was chosen to be the Shuttle carrier aircraft (SCA).

A historical account of the early programs leading up to the SSV concept can be found in reference 3.

### 3. CONFIGURATION EVOLUTION

Identification of the SSV configurations as they evolved can be confusing because of several levels of configuration designation. The initial designations, related to the program milestones, used the following acronyms:

ATP - Authority to Proceed  
PRR - Preliminary Requirements Review  
PDR - Preliminary Design Review  
CDR - Critical Design Review

On the design engineering level, the prime contractor configuration control drawing designations were used. At times the lines (contour) drawing designations were all that was available because changes were made so rapidly. In addition, SSV designations 1 through 6 were used by both management and engineering. Figure 3.1 shows the approximate time periods for the various designations. Figure 3.2(a) and 3.2(b) are summaries of the major configuration definitions for the Orbiter and Integrated Vehicle (IV), respectively. Figure 3.3(a) through 3.3(e) are three-view drawings of the major Orbiter definitions shown in fig. 3.2(a). Figure 3.4(a) through 3.4(e) are three-view drawings of the major IV definitions shown in fig. 3.2(b). Figure 3.5(a) and 3.5(b) are three-view drawings of the OV-102 and IV for the STS-1. Tables 3.1 through 3.3 give the dimensional parameters for OV-102, the ET and the SRB's, respectively. Table 3.4 presents the associated reference areas and lengths used to normalize the aerodynamic forces and moments.

The ATP Orbiter aerodynamic shape had a  $50^\circ$  sweep delta wing planform sized to provide 150 knots (77.2 m/sec) design touchdown speed with a 40,000-pound (18,100 kilogram) return payload. Elevons were sized to provide trim at hypersonic speeds over an angle of attack range from  $20^\circ$  to  $50^\circ$  with an operational center of gravity (CG) range of 3 percent body length (LB). The cargo bay was 15 feet in diameter (4.57 meters) by 60 feet long (18.2 meters) to accept a wide variety of payloads. The remote manipulator arms were stowed in a dorsal fairing along the top of the payload bay doors. For ferry and entry assist, an air breathing propulsion system (ABPS) was situated in the aft portion of the payload bay. Three main propulsion system rocket engines were located at the base of the aft fuselage and orbital maneuvering systems (OMS) engines were installed in two removable pod modules on the side of the aft fuselage. Reaction control system (RCS) rocket engines were also located in the aft pods and on the forward fuselage. The pilot's eye (cockpit location) was 208 inches (528.3 cm) aft of the nose and had an angular view of  $20^\circ$  up and  $24.5^\circ$  down. The nose radius was 25 inches (63.5 cm) and blended smoothly into the low fineness ratio body. The ATP Integrated Vehicle had the Orbiter attached to the ET "piggy-back" style with the Orbiter nose 80.3 feet (24.48 m) aft of the ET nose. The Orbiter fuselage reference line (FRL) is canted down so that the Orbiter is oriented at a  $-1.2^\circ$  incidence with respect to the ET centerline. The SRB's are attached to the ET such that the noses of each SRB are 17.5 feet (5.33 m) aft of the ET nose and 3.1 feet (0.94 m) above the ET centerline. The centerlines of the SRB's and the ET are parallel. Two ASRM's (abort SRM's) are mounted at the aft end of the Orbiter body. The ET is

essentially a cone-cylinder arrangement. It is fitted with a retro SRM package at the tank nose to facilitate ET deorbit. The external shape of the retro SRM is a small hemisphere-cylinder with a nose radius of 20.5 inches (52.07 cm). It has a length of 124 inches or 10.33 feet (3.15 m). The conical nose portion of the tank has a semivortex angle of  $30^\circ$  which blends smoothly into the cylindrical section of the ET. The shoulder blending radius at the cone-cylinder juncture is the same as the cylinder radius, 159 inches (403.9 cm). The ET overall length is 182.0 feet (55.47 m). The nose radius of the SRB's is 13 inches (33.0 cm) and the cone semivortex angle is  $18^\circ$ . The cylinder diameter is 156 inches (3967.2 cm), and the overall SRB length is 184.8 feet (56.33 m). The fixed nozzles are canted outward  $11^\circ$  in the yaw plane so that the boosters will be thrusting through the approximate center of gravity of the vehicle during the boost phase.

The PRR configuration evolved from the ATP configuration based on MCR 0026 (Master Change Record) in October 1972. The most obvious changes follow. The OMS pods were rotated from the aft fuselage side to the aft body shoulder and lengthened slightly. The canopy was moved aft approximately 52 inches (132.1 cm) with an angular view of  $7^\circ$  up and  $18^\circ$  down. The forebody was redesigned to accommodate internal packaging revisions and to improve the transition to the midbody. Wing refinements included an increased thickness ratio, a slight leading-edge droop and minor wing body fillet modifications. The Orbiter incidence was increased to  $+0.5^\circ$  to improve the ET separation performance and the IV trim angle. The abort SRM's were deleted. The air breathing propulsion for landing assist following orbital flights was deleted. The ET nose was changed to an ogive shape to reduce the drag. The SRB's were shortened and moved aft resulting in a slightly longer integrated vehicle. Most of the positioning of the elements (Orbiter and SRB's) relative to the ET, were to improve the element-to-element interference drag. It also alleviated the SRB plume effects on the Orbiter base. The SRB's also had an expanded shroud, had thrust vector control (TVC) added with a reduced precant, and had the aft strakes removed.

Vehicle 2A, also referred to as the "150K Orbiter," (where K indicates 1000 pounds) encompassed the largest changes of all (MCR 0074). Basically the vehicle dry weight and payload down weight were reduced significantly, requiring a complete resizing of the Orbiter. A  $45^\circ/79^\circ$  double-delta wing planform was incorporated with reduced glove leading-edge radius and forward sweep to the trailing edge. It included wing twist, camber, and incidence revisions for improved subsonic performance. Improved low-speed performance and a reduced static margin requirement permitted a reduction in wing size to 2,690 square feet (250 square meters) and resulted in rebalancing of the OV to meet stability and control requirements. Nose camber and radius, body cross section, and upward sloping forebody slab sides were selected to improve hypersonic pitch trim and directional stability. By combining them with wing-body blending, entry heating was reduced on the body sides. These changes also simplified the nose structure. The CG travel requirement was reduced from 3 to 2 percent body length. The ferry air breathing engines were moved to a position under the wing (not shown). The SRB's were shortened and moved aft further resulting in a shorter overall vehicle. The SRB yaw gimbal setting was reduced to  $0^\circ$  and the



nozzle flare angle was reduced. The ET was also shortened and the Orbiter was repositioned on the ET near its original location.

Vehicles 3 and 4 were essentially the same from an aerodynamic configuration viewpoint. Vehicle 3 was initiated with MCR 0200, with seven revisions carrying through the start of Vehicle 4. Early changes shortened the body by 38 inches or 3.17 feet (0.97 m) and smoothed the body\_nose area while incorporating a smaller nose radius at the same time. The wing glove leading edge was increased to  $81^\circ$  and the incidence was decreased from  $3^\circ$  to  $+1/2^\circ$ . Also some minor airfoil changes were made, the wing was lowered 4 inches (10.2 cm), and the lower body was refaired. In addition the bodyflap span was reduced. The primary purpose of these changes was to improve the overall aerodynamic and aerothermodynamic performance. The CG range requirement increased to 2.5 percent body length to allow  $1/2^\circ$  for aerodynamic trim uncertainties with a new payload down of 32,000 lbs (14,515 kg). In addition, the manipulator arm dorsal fairing along the top of the payload bay doors was deleted. The manipulator was stowed inside the payload bay. Later Orbiter changes (mid-1973) included thickening the airfoil 6 inches (15.24 cm) at the elevon hingeline. In early 1974 the ferry air breathing engines were deleted. The SRB's were moved forward relative to the ET as was the Orbiter. The FT was shortened and the retro package (spike) removed. The result was a slightly shorter overall vehicle length.

The Vehicle 5 Orbiter had the OMS pods shortened and refaired to clear the payload bay doors in early 1974 (MCR 0500). Other lesser external shape changes modified the wing tips, increased the elevon gaps, and deleted the vertical tail drogue chutes. Later (mid-1975) changes added recessed thermal glass in the windshield, observation windows, and hatch windows. Also the covers were removed from the forward RCS ports and from the umbilical doors in the aft body. The ET and SRB length changes as well as the distance of the SRB and Orbiter aft of the ET, were in approximately 4 feet or less. An ascent air data system (AADS) in the shape of a cone was added to the tip of the ET.

Vehicle 6 had no significant external shape differences from Vehicle 5.

A thorough description of the design logic to optimize the Orbiter aerodynamic configuration can be found in references 4 and 5. Reference 6 discusses the role of the entry aerothermodynamic environment on the Orbiter design, and reference 7 presents some of the challenges to the structural dynamicist.

TABLE 3.1 - ORBITER DIMENSIONAL PARAMETERS

| Component                                | Parameter  | Value                       |
|--|--|-----------------------------|
| Total vehicle<br>body +<br>exposed wing) | Reference area, $\text{ft}^2$ ( $\text{m}^2$ )                   | 2690 (249.91)               |
|  | Planform area, $\text{ft}^2$ ( $\text{m}^2$ )                    | 3952 (367.14)               |
|  | Surface wetted area, $\text{ft}^2$ ( $\text{m}^2$ )              | 11136 (1034.53)             |
|  | Length overall, ft (m)   | 122.0 (37.18)               |
|  | Reference length, ft (m)   | 107.5 (32.76)               |
|  | Height, gear up, ft (m)  | 46.14 (13.75)               |
|  | Height, on gear (static), ft (m)                                 | 53.76 (16.38)               |
|  | Span, ft (m)   | 78.056 (23.79)              |
| Body                                     | Reference length (nose at<br>$X_o = 238$ inches), in. (cm)       | 1290.3 (3277.36)            |
|  | Depth, maximum ( $X_o = 1280$ inches)<br>ft (m)                  | 19.92 (6.07)                |
|  | Width, maximum ( $X_o = 1528.3$ inches)<br>ft (m)                | 22.0 (6.70)                 |
|  | Planform area, $\text{ft}^2$ ( $\text{m}^2$ )                    | 1914.4 (177.85)             |
|  | Surface wetted area, $\text{ft}^2$ ( $\text{m}^2$ )              | 5634 (523.39)               |
|  | Base area (includes OMS pods),<br>$\text{ft}^2$ ( $\text{m}^2$ ) | 436.7 (40.57)               |
|  | Cargo bay (diameter by length),<br>ft (m)                        | 15 by 60<br>(4.57 by 18.28) |
|  |  |                             |
|  |  |                             |
| Wing<br>(includes body<br>carry through) | Planform area, $\text{ft}^2$ ( $\text{m}^2$ )                    | 2690 (249.91)               |
|  | Span, ft (m)   | 78.056 (23.79)              |
|  | Aspect ratio   | 2.265                       |
|  | Taper ratio  | 0.20                        |
|  | Sweep, leading edge, deg   | 45                          |
|  | Sweep, trailing edge, deg  | -10                         |
|  | Dihedral (at wing trailing<br>edge), deg                         | 3.5                         |
|  | Root chord ( $Y_o = 0$ inches)                                   |                             |
|  | (theoretical) Length, ft (m)                                     | 57.44 (17.50)               |
|  | Quarter chord station, $X_o$ ,<br>inches (cm)                    | 1008.31 (2561.10)           |
|  | Tip chord ( $Y_o = 468.34$ inches)                               |                             |
|  | Length ft  | 11.48 (3.50)                |
|  | Quarter chord station, $X_o$ ,<br>inches (cm)                    | 1338.80 (3400.55)           |
|  | Incidence, deg   | +0.5                        |
|  | Airfoil section  | 0012-64 modified            |
|  | MAC, $\bar{c}$ ( $Y_o = 182.13$ inches)                          |                             |
|  | Length, ft (m)   | 39.56 (12.05)               |
|  | Quarter chord station, $X_o$ ,<br>inches (cm)                    | 1136.83 (2887.54)           |

TABLE 3.1 - CONTINUED

| Component  | Parameter   | Value                |
|--|---|----------------------|
| Wing, exposed  | Planform area (including glove),<br>ft <sup>2</sup> (m <sup>2</sup> ) | 2012.4 (186.95)      |
|  | Surface wetted area, ft <sup>2</sup> (m <sup>2</sup> )                | 4001.2 (371.71)      |
|  | Root chord (Y <sub>0</sub> =108.0 inches)                             |                      |
|  | Length (inc. glove), ft (m)   | 80.83 (24.63)        |
|  | Quarter chord station, X <sub>0</sub> ,<br>inches (cm)                | 778.5                |
|  | Incidence, (Y <sub>0</sub> =199.045 inches),<br>deg                   | -0.5                 |
|  | Airfoil section (Y <sub>0</sub> =199.045<br>inches)                   | 0.0010 modified      |
|  | Leading edge gloye, deg   | 81                   |
| Elevon<br>(one side)                                     | Area, ft <sup>2</sup> (m <sup>2</sup> )                               | 206.57 (19.18)       |
|  | Span, ft  | 28.87 (8.79)         |
|  | Aspect ratio  | 4.03                 |
|  | MAC, $\bar{c}$ length, ft (m)   | 7.46 (2.27)          |
|  | Quarter chord station, X <sub>0</sub> ,<br>inches (cm)                | 1409.375 (3579.81)   |
|  | Distance from elevon centroid<br>to hinge line, inches (cm)           | 44.75 (113.665)      |
|  | Deflection (elevator/aileron), deg                                    | +20, -35             |
|  | Inboard/outboard split line,<br>(Y <sub>0</sub> = 311 inches)         |                      |
| Vertical tail<br>(includes<br>rudder and speed<br>brake) | Planform area, ft <sup>2</sup> (m <sup>2</sup> )                      | 413.25 (38.39)       |
|  | Span, ft (m)  | 26.31 (8.02)         |
|  | Aspect ratio  | 1.675                |
|  | Taper ratio   | 0.404                |
|  | Sweep, leading edge, deg  | 45                   |
|  | MAC, $\bar{c}$ length, ft (m)   | 16.65 (5.07)         |
|  | Elevation, Z <sub>0</sub> , inches (cm)                               | 635.5 (1614.17)      |
|  | Quarter chord station, X <sub>0</sub> ,<br>inches (cm)                | 1463.35 (3716.90)    |
|  | Root chord length, ft (m)   | 22.37 (6.81)         |
|  | Tip chord length, ft (m)  | 9.04 (2.75)          |
|  | Airfoil section (root - tip)  | 10° sym 60%-40%      |
|  | Sweep, trailing edge, deg   | double wedge<br>26.2 |

TABLE 3.1 - CONCLUDED

| Component             | Parameter                                       | Value             |
|-----------------------|---|-------------------|
| Rudder and speedbrake | Planform area, $\text{ft}^2$ ( $\text{m}^2$ )   | 97.84 (9.08)      |
|                       | Span, ft (m)                                    | 16.55 (5.04)      |
|                       | $\bar{c}$ length, ft (m)                        | 6.07 (1.85)       |
|                       | Elevation, $Z_o$ , inches (cm)                  | 670.41 (1702.84)  |
|                       | Quarter chord station, $X_o$ , inches (cm)      | 1575.77 (4002.45) |
|                       | Deflection, rudder (maximum), deg               | 22.8              |
|                       | Deflection, speedbrake, deg                     | 0 to 87.2         |
|                       | Hinge Line, deg                                 | 34.83             |
| Body Flap             | Planform area, $\text{ft}^2$ , ( $\text{m}^2$ ) | 135.75 (12.61)    |
|                       | Fuselage station of hinge line, inches (cm)     | 1532 (3891.28)    |
|                       | Span (equivalent), inches (cm)                  | 241.33 (612.97)   |
|                       | Chord, inches (cm)                              | 81 (205.74)       |
|                       |   |                   |

TABLE 3.2 - ET DIMENSIONAL PARAMETERS.

| Parameter  | Value           |
|--|-----------------|
| Length overall (OML), ft (m)                       | 154.4 (47.05)   |
| Ogive radius (OML), inches (cm)                    | 613.0 (1557.02) |
| Cylinder diameter (OML), inches (cm)               | 333.0 (845.82)  |
| Base area (OML), ft <sup>2</sup> (m <sup>2</sup> ) | 604.8 (56.18)   |

TABLE 3.3 - SRB DIMENSIONAL PARAMETERS

| Parameter                                    | Value          |
|--|----------------|
| Length overall, ft.(m)                       | 149.1 (45.44)  |
| Nose radius, inches (cm)                     | 13.28 (33.73)  |
| Cone semi-vertex angle, deg                  | 18.0           |
| Cylinder outside diameter, inches (cm)       | 146.0 (370.84) |
| Base area, ft <sup>2</sup> (m <sup>2</sup> ) | 235.0 (21.83)  |
| Nozzle deflection angle:                     |                |
| Null position, pitch & yaw, deg              | 0              |
| Gimbal range, pitch & yaw                    |                |
| TVC axes, deg                                | $\pm 5.0$      |
| Body axes, deg                               | $\pm 8.0$      |

TABLE 3.4 - AERODYNAMIC FORCE AND MOMENT REFERENCE DIMENSIONS.

| Parameter   | Reference Value   |
|---|-------------------|
| Longitudinal and lateral/directional coefficients |                   |
| Wing Area, $\text{ft}^2$ ( $\text{m}^2$ )         | 2690.000 (249.91) |
| Wing Span, ft (m)                                 | 78.057 (23.79)    |
| MAC, $\bar{c}$ length, ft (m)                     | 39.568 (12.06)    |
| Hinge moment coefficients                         |                   |
| Elevon  |                   |
| Area, $S_e$ , $\text{ft}^2$ ( $\text{m}^2$ )      | 210.000 (19.51)   |
| Chord $\bar{c}_e$ , ft (m)                        | 7.55 (2.30)       |
| Bodyflap  |                   |
| Area, $S_{BF}$ , $\text{ft}^2$ ( $\text{m}^2$ )   | 135.000 (12.54)   |
| Chord, $\bar{c}_{BF}$ , ft (m)                    | 6.75 (2.05)       |
| Rudder/speedbrake                                 |                   |
| Area, $S_r$ , $\text{ft}^2$ ( $\text{m}^2$ )      | 100.150 (9.30)    |
| Chord, $\bar{c}_r$ , ft (m)                       | 6.10 (1.86)       |

Note: The aerodynamic moments for the Orbiter were reduced at a point 65 percent aft of the Orbiter nose and on the Orbiter centerline. For the Integrated Vehicle the moments are reduced at a point coincident with the Orbiter nose and on the external tank centerline.

#### 4. TEST CONDITIONS AND REQUIREMENTS

The nominal mission phases dictate distinct flight conditions to which the SSV is subjected. These phases can be divided into the three major operational areas: launch, separation, and entry. The flight environment of the various configuration combinations is dependent on the vehicle attitude, velocity, and the accompanying flowfield interaction with the configuration. A sketch of the nominal mission phases is shown in fig. 4.1. Trajectory characteristics for a typical ascent are shown in fig. 4.2(a) and for a typical entry in fig. 4.2(b).

In the launch phase the vehicle is positioned vertically on the launch pad (fig. 4.3). Before and during lift-off, the effect of ground winds must be considered. The main engine noise (vibration loads) and pad overpressures experienced at ignition can also be important. As the vehicle ascends, the aerodynamic stability and control characteristics are important. However, they are not critical because of the overpowering thrust of the vectorable main engines and SRB's. At an early point however, the aerodynamic loads become large (in the transonic flight regime) with the additional possibility of empennage buffeting. As the launch speed increases, aerodynamic heating, and, in particular, localized heating between the vehicle's individual elements also increases. Throughout launch, the total vehicle drag including the effects of the engine plumes must be determined. Some of the more important IV aerodynamic considerations are noted in fig. 4.4.

For nominal flight, the two distinct element separation phases are SRB separation near Mach 5.0 and ET separation near orbital insertion. ET separation problems are actually more significant aerodynamically for the abort phase referred to as "return to launch site" (RTLS). Each separation phase must consider the aerodynamic interference, or proximity, effects to avoid element recontact. The aerodynamics, airloads, and aeroheating of the individual SRB and ET elements are required for ET disposal studies and SRB recovery analyses. In addition, SRB recovery involves determination of the characteristics of a suitable parachute system. Fig. 4.5 depicts the separation characteristics. Fig. 4.6 shows the events for SRB recovery.

During the entry phase, the Orbiter will descend from a Mach number near 28 to a landing speed near 200 knots (102.9 m/sec). At the upper level of the Mach regime, aeroheating, and stability and control considerations also involve the RCS interactions. Throughout entry the effectiveness of all of the Orbiter control surfaces (elevons, bodyflap, rudder, and speedbrake) must be determined. This is because the attitude profile changes from a high angle of attack at high Mach numbers (to dissipate the heat and slow the vehicle) to a conventional "airplane-like" attitude for landing. The subsonic lift-to-drag ratio must be large enough so that the Orbiter speed and angle of attack are not excessive at landing. In addition, ground effects during landing are important. An additional characteristic of the Orbiter during entry is the large range of CG locations (because of payload placement) that the vehicle's stability and control characteristics must contend with. Some of the more important Orbiter aerodynamic considerations are shown in fig. 4.7.

For the carrier program, several distinct modes of operation were required. First, in the ferry mode, the Orbiter/SCA in the mated configuration would perform the ferry mission up to a range of 2000 nautical miles (3706.2 km).



Other potential ferry missions would involve the ET or a payload cannister. For the airlaunch, or the ALT mission, the mated configuration would climb to altitude (approximately 30,000 ft. or 9144 m) and launch the Orbiter in a "top-launch" concept. Initial ALT flights would be performed with a tailcone or fairing that covered the Orbiter main engine nozzles and stayed attached to the Orbiter during the free-flight portion. Later ALT flights would be performed without the tailcone. The most complex flight condition to determine for ferry was the definition of the wake caused by the blunt-based Orbiter and the subsequent effect on the 747 vertical tail. For the ALT mission the separation procedures and characteristics were the most difficult to determine. Fig. 4.8 shows the Orbiter/SCA mated configuration with the Orbiter to SCA incidence to be set for either a ferry or launch mission. Fig. 4.9 shows the ALT Orbiter Vehicle (OV101) and some of its special characteristics for the ALT program.

## 5. WIND TUNNEL TESTING RATIONALE

Much of the expertise in determining what type of wind tunnel testing that would be required was developed during the early SSV studies (see refs. 8 through 10). In addition, the selected contractor, Rockwell International, had a large amount of experience with previous aircraft test programs. It also had experience with the Apollo test program. Several differences for the SSV program were apparent from the beginning. However, these differences dictated that the SSV wind tunnel program be very thorough and at the same time be highly efficient. Thoroughness was dictated by the fact that STS-1 would be orbital and would carry a crew. There were no plans for using the conventional graduated flight test approach that new aircraft normally use. New ground was being broken in all flight phases and little empirical data were available for the early SSV studies. Efficiency was dictated by both the design and development schedule and by the need to keep costs to a minimum. Each distinct configuration/environment test requirement in each discipline had to be justified. Testing had to be designed to obtain reliable data. To minimize program costs, the major portion of the wind tunnel program would be conducted in NASA facilities. The basic objective of the overall wind tunnel program was to conduct the mainstream testing that would meet the technical requirements of the SSV aerodynamic, aerothermodynamic, airloads, structural dynamics, and separation disciplines. Adhering to this procedure would result in a safe and successful operational SSV. In general, the early testing was done to define basic vehicle characteristics and parametric effects. The latter data was used incrementally to estimate the characteristics of any proposed design modifications. When the configuration definition was "frozen," for management review purposes, then the new design was tested to verify the estimated data base. This procedure was repeated several times throughout the program, while holding any extensive verification tests to a minimum until the end of the program when the "as built" configurations could be tested. The testing rationale for each of the aforementioned test disciplines is discussed in the following paragraphs as applicable to the major configuration/operational flight phase combinations for the Integrated Vehicle, Orbiter, and ferry configurations.

### Integrated Vehicle

The basic aerodynamic force and moment data were needed early. This determined the requirements for both SRB and SSME engine-on additions to the total vehicle stability. Total vehicle stability required that the aerodynamic and thrust, forces and moments be in equilibrium. The aerodynamics would dictate SRB and SSME preant nozzle angle settings and engine gimbal requirements. In addition, because the plume effects have such a strong effect on stability, the early tests included plume simulations. However, in testing with such a complex launch configuration base area there would obviously be sting interference effects. To account for these, engine-off tests were performed. A conventional sting-out of the aft end of the ET model measured force and moment data, elevon and rudder hinge moments, attach structure interface loads, wing moments (bending, torsion, and shear), and effects forward of the base area (fig. 5.1). Similar measurements were made with the Orbiter as the sting-supported element (fig. 5.2) allowing for sting effects to be accounted. Later tests, specifically for incremental model support interference effects, were performed to address all of the sting arrangements used (fig. 5.3). For plume effects,

early tests were run with the conventional aft-sting arrangement (fig. 5.4). Later tests were run using a blade strut, from the lower surface of the ET, to concentrate on measurements in the base region (fig. 5.5). The blade mount provided a relatively "clean" base region for high quality measurement of base effects. Early exploratory testing used analytically-determined solid plume shapes (varying with Mach number, altitude and other key jet simulation parameters) as shown in fig. 5.6.

Compromises had to be made in the testing program when duplication of the actual engine exhaust plumes was planned. It was neither technically nor economically feasible to completely duplicate the exhaust gas from the SRB's and SSME's for each of the SSV launch vehicle tests for the following reasons.

- a. The geometry could not be accurately simulated because of the necessary plumbing required to pass the simulant gases into the model.
- b. Since the base area is the primary area affected by the launch vehicle plumes, a blade support system mounted through the ET is required. This is used rather than a sting support system to properly model the base area. The blade support system will invalidate aerodynamic data only at large aerodynamic angles.
- c. Exhaust plume testing is an order of magnitude more expensive and time-consuming than "standard" aerodynamic testing.

The approach used in the SSV test program was to use state-of-the-art techniques for the basic power-off data base. Then generate power effect increments from the limited exhaust plume tests. The exhaust simulant gas used in these tests was high-pressure, unheated air. Using air as the simulant gas was ascertainable based on the results of a plume technology study program. This separate program was designed to establish a set of simulation parameters. These parameters would correlate wind tunnel derived base pressures, using air as the simulant gas, with the expected results from the prototype vehicle. The resulting simulation parameter, a function of plume shape and gas dynamics characteristics, was applied to the scaled SSV exhaust plume test data. This was done to obtain the base and forebody plume effect increments. The tests covered the transonic and low supersonic region where the plume effects are most significant. Supplemental data from base heating tests were used to fill in the high Mach number data points. Such points as the vacuum chamber test arrangement as shown in fig. 5.7. In this way, many tests served several purposes and generated data in several separate test disciplines. Pressure tests (distributed loads tests) were accomplished in this manner throughout the program. These tests in addition to the extensive detailed testing to determine wing bending, torsion, and shear (as well as elevator-rudder hinge moments) were mostly done without the plume simulations because of the complications of having the instrumentation and the plumbing for the pressurized air all in the same model. The resulting distributed loads data were integrated to obtain forces and moments which were then compared to the test forces and moments. These two independent sets of data were compared and "balanced" to be within 3 percent of one another.

Static force and moment data on the SRB's and Orbiter/external tank (O/ET) configurations were obtained at Mach 4.5 for nominal staging conditions. The data was taken in two modes to reflect the flowfield environment encountered at

staging. Namely, separation motors were simulated using high pressure air in conjunction with model nozzles scaled to reproduce jet-to-free-stream momentum ratio. Both SRB's were used with the O/ET model in plume-on testing to properly account for cumulative effects on the O/ET (fig. 5.8). Only a single SRB was used in the plume-off regime, the effects of the second SRB on the O/ET being derived analytically (fig. 5.9). Relative motion between the SRB's and the O/ET was produced by an automated captive trajectory system. This system was programed to sequentially vary the SRB relative positions according to a preprogramed run matrix. Artificial boundary-layer trips were not employed over the tested Reynolds number range of  $1.4$  to  $7.0 \times 10^6$  per foot. This was because the presence of intervehicle shocks assured a turbulent boundary layer. A unique data organization strategy, the "hypercube" approach, was developed to facilitate use of the eight required independent variables (jet momentum ratio, O/ET pitch and yaw angles of attack, SRB relative longitudinal, vertical and lateral displacement, and SRB relative pitch and yaw orientation). The "hypercube" data strategy, as opposed to the classical grid data format, resulted in the reduction of required test data points by two orders of magnitude.

The nominal ET separation procedure is accomplished at an altitude at which aerodynamic forces and moments are negligible as compared to the forces and moments due to the RCS jets (used for the separation maneuver). Therefore no testing was done here. However, during the RTL abort, the ET must be separated in a significant aerodynamic environment. The interaction of the RCS jets with the free-stream flow is substantial. The testing was accomplished for these flight conditions using the captive trajectory system much in the same manner as the SRB separation technique described above (fig. 5.10).

Postseparation aerodynamic forces and moments, as well as airload pressure distributions were obtained for the ET and for the SRB's at the appropriate test conditions. Both configurations required testing at high angles of attack because of tumbling after separation (ET for RTL conditions). In addition the SRB recovery parachute system required some conventional testing. These tests were conducted using standard procedures.

Ascent aerothermodynamic heating tests began in the last half of 1973 after the configuration had gone through most of the major changes. The bulk of the testing was done using thermocouples in conjunction with thin-skinned models to measure rapid temperature changes (fig. 5.11). Pressure testing was done for the same test conditions to better define the local flow environment. Later testing concentrated in the base area identifying requirements for the base heat shield at high altitudes (fig. 5.12). These tests measured pressures and heat transfer characteristics with simulated plumes. Generally as time went on, the models had higher fidelity (such as that shown in fig. 5.13). The number of measurements increased concentrating in the critical areas. Supplementary testing with flat plate models duplicated areas that had configuration discontinuities, such as with the TPS tiles shown in fig. 5.14. Also, testing was done using oil-flow techniques to identify flow patterns and regions of high pressure concentrations (fig. 5.15).

Ascent structural dynamics testing centered around aeronoise (or fluctuating pressure) testing in the critical transonic and low supersonic regions of flight. Tests were also performed checking the possibility of flutter

initiation, again during transonic/low supersonic flight, as shown in fig. 5.16. In addition, tests determining the effects of ground winds are shown in fig. 5.17.

In midprogram, subsystem managers of aerodynamics, airloads, heating, and stage separation felt that air data measurements would be required for the ascent phase for postflight analyses. These concerns resulted in an ascent air data system (AADS). Testing was done largely using a 7 percent forebody model (fig. 5.18) with supplementary tests on complete scale-models for SSV element effects. Results of the AADS flight performance can be found in references 11 and 12.

### Orbiter Configuration

The configuration for entry vehicle testing was not as complicated, as was the launch vehicle. In general, the same "balancing" procedure for force and moments, and distributed airloads that was used for the launch vehicle data was also used for the entry vehicle data. Some of the many model support arrangements are shown in fig. 5.19. A large scale model, shown in fig. 5.20, tested low speed characteristics with much of the surface discontinuities and outstanding features represented. Additional test areas for the entry configuration included.

- a. Control surface deflections for the elevons, rudder, speedbrake, and bodyflap. Initial testing used "bolt-on" model parts that represented discrete deflection angles, figs. 5.21(a),(b). Later, more sophisticated models were made with internal mechanisms that allowed the control surfaces to be moved and set from outside the tunnel, fig. 5.21.(c). This procedure circumvented facility shut-downs for model changes and made occupancy hours much more productive (ref. 13).
- b. RCS testing using simulated jet exhausts (as shown in fig. 5.22). Use of the RCS is critical during entry. Any adverse effects because of control surface pressure changes had to be identified and this information fed into the stability and control system. Some of the geometric moments produced by the jet engine forces were negated by induced jet effects on aerodynamic surfaces (wing and vertical tail). The effects of the various combinations of the main thrusters, positioned for pitch, yaw, roll moments, as well as for -Z translation (for ET separation) were tested. They concentrated on major aerodynamic degradation areas retesting where required.
- c. Aeroelastic testing was used for effects of wing and vertical tail bending. Simple elastic wing and vertical tail model parts were attached to existing rigid models to determine the effects of the resulting shapes on the basic vehicle aerodynamics (fig. 5.23). These data were used to confirm the analytical predictions.
- d. Ground effects were measured to ensure that control capability was available for landing. And more importantly they were measured to alert the crew to the expected aerodynamic effects during this critical flight phase. Tests were conducted initially with a fixed ground plane and later with a moving ground plane as shown in fig. 5.24. Low speed tests were also conducted to measure landing gear loads (fig. 5.25).

e. The Orbiter entry ADS was tested using 10 percent forebody models as shown in fig. 5.26. Test Mach numbers covered the flight operational range of the ADS, from Mach 0.20 to 3.5. Supplemental air data was taken during the large scale model tests, fig. 5.20(b). Details of the Orbiter ADS design, calibration and flight results can be found in reference 12.

Initial aerodynamic heating tests were conducted on the entry configuration with the emphasis on defining the overall environment. These tests were much more extensive than the integrated vehicle tests because of the harsher entry heating environment and because of the unique individual-tile TPS used on the Orbiter. The heat sensitive coating (phase change paint) technique was used to save time and money for the early configuration evaluation studies. Phase change coating models (a plastic-like substrate) are inexpensive and can be made more rapidly than the instrumented models (fig. 5.27). Heat transfer is determined by measuring the time required for a point on the surface of a model to reach the melting temperature of the thin coating. An added feature of this technique is that it is also a form of flow visualization. Another inexpensive technique that was used quite extensively was oil-flow photographs. They define streamline directions and local flow separation characteristics (fig. 5.28). Follow-on tests used the thermocouple/thin-skinned model technique or calorimeters to obtain more detailed data (fig. 5.29). Thermocouples were attached to the inner surface of the model at given points. Temperature time histories were taken with the angle of attack, Reynolds number, and Mach number as variables. Lower heating rates were measured with thin film gauges (resistance thermometer slug calorimeters) and the higher rates with thermocouple gauges (coaxial surface thermometers). Tunnel conditions were monitored with a dual probe that measured temperature and shock stagnation pressure (fig. 5.30). These thermocouple tests defined the temperature distributions around the Orbiter. Closely-related pressure tests defined pressure distributions for the same test conditions. Shadowgraph and Schlieren pictures of the flow patterns were useful in defining several necessary parameters, such as shock-standoff distance and boundary-layer flow conditions (fig. 5.31). Flat plate tests with full scale tiles determined the effect of tile gaps and surface irregularities as well as tile orientation (fig. 5.14). In addition, large scale testing was done in other critical areas such as leading-edge surfaces, elevon seal gaps, landing gear doors, and other areas where surface discontinuities would cause local "hot spots."

Structural dynamics testing was important. The validity of early configuration concepts was examined and critical areas defined, especially potential flutter tendencies of the Orbiter aerodynamic surfaces (fig. 5.32). The purpose of these tests was to acquire, early in the design process, experimental data in the transonic flight region to support analytical flutter predictions. Two models were used. One was scaled with the stiffness of the proposed baseline vehicle; a second with a reduced stiffness level. These results, with the aid of various computer programs, established flutter boundaries and substantiated proposed margins. All wing/elevon and fin/rudder models were designed to have variable control surface stiffness. This allowed exploration of potential coupling of the control surface with parent surface modes. These models also evaluated buffet and stall flutter tendencies. A semirigid flutter model was used to do the final evaluation of the Orbiter flutter boundary over the Mach/dynamic pressure range (fig. 5.33). Acoustic tests of the Orbiter surfaces covered by TPS had indicated that failure might be initiated by extreme pressure gradients. Gradients such as those produced by aerodynamic shocks, as well as

structural vibrations resulting from acoustic or turbulent boundary-layer pressures. To evaluate the sensitivity of the TPS to these simultaneous effects, compression, and expansion shock tests were performed (fig. 5.34).

#### Ferry/ALT Configuration

Much of the feasibility testing for the ferry/ALT launch configurations was performed by the carrier vehicle contractors (Boeing and Lockheed) before the selection of the Boeing 747. Force and moment testing for detailed configuration development was still needed. Also needed was verification of the mated vehicle as well as the separation characteristics. In addition, testing was required to obtain a low drag tailcone for the Orbiter. This tailcone would minimize the buffet disturbance to the carrier aircraft. The force and moment tests were performed in the same facilities that the carrier aircraft contractor had used because of model compatibility and data comparability (fig. 5.35). Separation tests were done using a minimum matrix of conditions in conjunction with a computer graphics program. This program varied each vehicle's control settings (including spoilers, landing gear, etc.) to optimize on a safe separation procedure (fig. 5.36). Several exploratory tests were required to ensure the carrier aircraft vertical tail would be able to sustain any buffeting induced by the tailcone wake (fig. 5.37). In the process of defining an optimum tailcone configuration (low drag, low wake) many sting arrangements were utilized to minimize the model support effects (fig. 5.38).

## 6. WIND TUNNEL TEST PROGRAM MANAGEMENT

During the Phase A and B development programs, the NASA Johnson Space Center (JSC) and the NASA Marshall Space Flight Center (MSFC) monitored some four major contracts in their efforts to produce a suitable vehicle design to achieve the proposed space transportation mission. Near the end of Phase B, NASA Headquarters assigned JSC responsibility of managing the overall SSV integration task and the Orbiter development. MSFC had responsibility for the ET, the SRB's, and the SSME development. To effectively and efficiently manage the program, JSC established the Space Shuttle Program Office (SSPO) and created project offices representing the Orbiter, the ET, the SRB's, and the SSME. Each project office in turn assigned subsystem hardware and software managers. One of these was the Aerodynamics Subsystem Manager. In addition to responsibility for the development of the Space Shuttle aerodynamic data base, the Aerodynamic Subsystem Manager was also responsible for the organization and implementation of the overall SSV wind tunnel test program.

To assist in the execution of the Space Shuttle wind tunnel test program task, a committee of technical representatives was formed. It was referred to as the Space Shuttle Engineering Coordination Panel-Wind Tunnel Program (SSECP-WTP). Initial membership was requested from each of the NASA centers including NASA Headquarters. Because five major Shuttle disciplines derive their source of data from the wind tunnel testing process (aerodynamics, aerothermodynamics, airloads, structural dynamics, and stage separation), each discipline was represented on the panel by an associated subsystem manager. The SSV development covered a wide range of flight conditions throughout the Mach number range. Furthermore configuration modifications would result from the wind tunnel data analyses. For these two reasons it was decided to include a representative from each of the major U.S. wind tunnel testing complexes on the committee. These complexes were the NASA Langley (LaRC), Ames (ARC), and Lewis Research Centers (LeRC), and the Air Force Arnold Engineering Development Center (AEDC). The representatives were helpful not only in sharing similar test experiences, but they were also familiar with the capability and daily status of their respective facilities. They would be able to efficiently coordinate those tests scheduled at their facilities.

In September 1972, an organizational meeting of the SSECP-WTP was held at JSC to review with the prime contractor, Rockwell International, their overall estimates of the anticipated test program. Additionally the plans for the first 6 months of this program were reviewed in detail. Also guidelines for monitoring the overall test program were established. As a result the following procedures were adopted.

- a. The wind tunnel coordination panel would meet quarterly until such a time that the panel would no longer serve its original purpose.
- b. At each of these meetings Rockwell would provide a status of the major disciplines regarding what had been learned over the past several periods. Those issues would be addressed in the next segment of the program.



c. Rockwell would also review their master wind tunnel program regarding each proposed test to cover a 2-year period broken down as follows:

1. In detail, for the upcoming 6 months.
2. In general, for the following 6 months on a monthly basis.
3. A broad estimate for the subsequent 12-month period on a quarterly basis.

d. Each near-term proposed test, supported with a pretest run schedule, would be reviewed by the panel. The objectives, testing techniques, and facility utilization were to be reviewed.

e. Having satisfied the panel as to the test objectives, the facility representatives would provide tentative commitments from their facility management to support these panel-approved tests.

f. Before each test, the proposed run schedule would be required to have the concurrence of the appropriate JSC subsystem manager. The manager would indicate to the appropriate facility representative that the run schedule had been prioritized and minimized. The manager would also indicate whether the current data requirements of the SSV program had been met. Any facility disagreement with the test or run schedule would be negotiated between the JSC representative and the facility representative. Fig. 6.1 shows the flow of this chain of events.

g. The Rockwell onsite test engineer would have the responsibility for the real-time direction and run scheduling within the scope and objectives of the agreed-upon test. Any JSC inputs/modifications, to the conduct of the test, would be through the Rockwell test engineer.

h. Any major changes to the scope or objective of an approved test would be coordinated between the appropriate subsystem manager and the Rockwell analysis engineer, before reapproval. This reapproval would then be relayed to the facility representative and to the onsite test engineer.

i. Periodically, both the SSPO and/or the appropriate project office(s) would be briefed on the status of the test program and the analysis of the results.

During the time that the panel was active, September 1972 to September 1976, the SSECP-WTP met 12 times. At each of these meetings, the format was basically the same. Rockwell presented their proposed test program for review. It also presented comments on whether the data from previous testing were adequate and if any model modifications and/or additional testing were required. Rockwell also presented the overall status of the configuration development emphasizing the gathering of adequate data defining the baseline vehicle characteristics. MSFC presented similar information relative to the ET and SRB development. During the course of these presentations, problem areas, other than the "main-stream" vehicle characteristics, were identified. Action was assigned to one or more of the panel representatives for further analysis and resolution.

Many of the action items required major studies requiring technical specialists and appropriate testing facilities to provide timely data for analysis. As MSFC was primarily responsible for developing the ET and the SRB recovery system, it

expended a large effort in defining the unsteady flow field of the mated vehicle. It also performed detailed interstage analyses and plume/support-interference studies. LaRC, with its long experience in aeronautics and large number of available facilities, provided the following major contributions to the SSV program. Included was the "fine-cut" stability and control analyses for the Orbiter. This information was used as the primary data source by the contractor for the final configuration analyses. Other LaRC studies included Orbiter center-of-gravity expansion capability, supersonic Orbiter hysteresis characteristics, RCS interaction effects, dynamic stability characteristics (Orbiter, integrated vehicle and ferry configuration), ALT/support-interference effects (base drag), launch vehicle drag reduction, tile roughness effects, and real-gas effects. LaRC heating studies covered boundary-layer transition; surface heating, and flow phenomena techniques (phase change coatings, oil flow, and electron beam); and interference heating. The ARC, although primarily involved in conducting the major segment of the development testing, did provide analytical support in the areas of Orbiter heating, aeroelasticity, static plumes, and aero noise definitions.

The following paragraphs detail the major discussion items at each of the SSECP-WTP meetings. Reference to configurations should be correlated with the definitions given in the section "Configuration Evolution" or by using fig. 3.1.

#### SSECP-WTP Meeting No. 1

This first meeting was held at the end of October 1972, just before the configuration changes were finished for the ATP vehicle to form the PRR configuration.

JSC test requirements for accepted and proposed shuttle tasks. - Seven tests were requested to support SRB entry analyses: four for ET and SRB ascent loads, one for the ET entry, one for lift-off aerodynamics, and one for launch vehicle plume simulation. Rockwell reviewed their required support contribution and concurred with five of the tests. They postponed the decision on the remainder until the next meeting.

Space Shuttle aerodynamic design data base (ADDB). - During the Phase B, B', and B" contractor studies, JSC formulated a document to serve as a single source of data for all aerodynamic-related studies. In addition to the basic vehicle and control surface aerodynamic data, related items such as configuration geometry definition, control surface deflection capability, etc. were included. This document guided Rockwell in producing the Space Shuttle ADDB. As one of the JSC supporting tasks, the data were also to be put on magnetic tape for the user community. Tight control ensured that all studies used this same source of "official" SSPO aerodynamic data from the ADDB's. This would avoid conflicting study conclusions that would occur if different sets of data were to be used (refs. 14 through 39).

Wind tunnel test procedures. - Procedures that were announced at the panel organizational meeting were changed. The pretest meetings were the responsibility of Rockwell and the facility. JSC would intervene only when conflicts arose. Also test data results were to be furnished to both Rockwell and JSC simultaneously.

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Plume testing. - Recent tests indicated that loads testing should include plume effects. Planned tests were revised to accommodate this need. In addition, a study was initiated to define a SRM nozzle shape that would minimize the plume effects on the vehicle aerodynamics.

Control effects tests. - A JSC study was presented that showed how the number of control surface settings (elevon) tested could be reduced and still give reliable results.

Air breathing propulsion system testing. - Because of the recent decision to eliminate the ABPS for entry (to be used for ferry only) these planned tests were switched to a more economical facility.

Reynolds number/ablation effects. - LaRC accepted a task to study the effects of Reynolds number in conjunction with ablation-caused surface roughness and shape. In addition, they would study TPS tile (waffle) effects with Reynolds number variations.

Test coordination. - Review and test revisions were accomplished in the areas of control surface flutter, panel flutter, aeronicse and RCS/flow interaction.

SSECP-WTP Meeting No. 2

This meeting was held in February 1973. The Orbiter configuration 2A, the "light-weight Orbiter," had just undergone preliminary definition. Several months of tests and analyses were required to confirm the configuration revisions. Tests identified by Rockwell for the near term included Orbiter Vehicle 2A preliminary stability and control, drag and ground effect ABPS studies, then Orbiter detailed stability and control. Also, Integrated Vehicle plume effects tests for stability and control were included. Orbiter loads tests were conducted to address design point conditions which were integrated into the structural analysis modal model. Separation tests had just been completed for the PRR configuration so only Orbiter abort separation tests were scheduled. These subjects also were discussed.

Plume testing review. - Plume testing requirements for the nominal ascent phase of flight, including separation and flight at hypersonic speeds, needed to be defined. This is so that the impact on facility hardware requirements could be made.

MSFC support activities. - The MSFC studies included the generation of launch heating environments, ET deorbit motor location effects, and protuberance effects. MSFC was also planning an ascent plume technology program to address both analytical and experimental plume simulation technology as related to the Shuttle. The objective was to provide an economical and efficient means for simulating SSME plume effects during the ascent phase. The program elements included a simulation technique evaluation that would qualify air simulation for known variable  $\Gamma$  gaseous plumes. It also included a Reynolds number (Re) evaluation to determine the quantitative effect of free-stream Re on plume-induced flow separation and a simulation evaluation to qualify air simulation using a hybrid (hot SRB, cold SSME plumes) model.

LaRC dynamic stability tests. - LaRC initiated a dynamic stability program to complement the one planned by Rockwell. Progress would be coordinated through the SSECP-WTP with JSC responsible for configuration definition.

#### SSECP-WTP Meeting No. 3

This meeting was held in May 1973. The short-lived Orbiter Vehicle 3 was about to become Vehicle 4. Rockwell presented results of some of their analytical prediction techniques for the Orbiter. Also presented was the test plan required to develop the Orbiter Vehicle 4 aerodynamics using existing Vehicle 2A and 3 models. Integrated Vehicle testing was planned to obtain parametric data (ET nose shape, Orbiter incidence, SRB location, attach structure detailed shape and Orbiter distance from the ET). Testing also gave Reynolds number effects, plume effects (location of SRE exit plane) and separation proximity aerodynamics. Because of the complicated test models required for air loads (distributed pressures) the model configurations would go directly from Vehicle 2A to 4.

In other actions, Rockwell was requested to plan RCS/flow interaction tests at hypersonic speeds and LaRC was requested to support sonic boom testing coordinated by a team from the ARC, MSFC, and JSC.

#### SSECP-WTP Meeting No. 4

The fourth meeting of the Wind Tunnel Panel was held in August 1973. Vehicle 4 was fairly well established. An extensive status report was given by Rockwell that reflected the Shuttle Requirements Review (SRR). As of this data 69 tests had been run in 6805 test hours using 17 facilities and 27 models. The estimate for the total program was 316 tests, 26 thousand hours, 31 facilities, and 69 models. The upcoming testing period would concentrate on the Orbiter PDR configuration due for review in February of 1974. Basic issues to be addressed were

- a. Verification of basic stability and control capability.
- b. Establishment of control surface effectiveness (off-nominal conditions and deflected surfaces for aileron/elevon and rudder/speedbrake combination settings through the complete Mach range).
- c. Base sting interference and main rocket engine nozzle installation effects (wing tip or vertical tail extension stings used in conjunction with base dummy stings).
- d. Configuration build-up (component on/off) effects.
- e. Control surface hinge moments.
- f. Vertical tail panel loads.
- g. Reynolds number and viscous interaction effects.
- h. ABPS location/configuration effects (ferry conditions).
- i. Data tolerance level definitions (comparison of model/model, facility/facility, various model scales, etc.).

For the ascent vehicle the issues to be addressed were the definition of power-on base drag and continued ET nose shape effects. Also addressed were the protuberance and attach structure effects, booster separation rocket effects at long distances, and off-nominal relative attitudes. The airloads testing that was required concerned the issues of base pressures for a flared rudder, Orbiter/ET attach fitting simulation, additional rudder deflections, chord with denser pressure tap distribution, pressure taps to measure venting characteristics, jet exhaust effects on pressures, and pressure distributions on the ET and SRB's. Other discussion considered the abort testing requirements where only abort-to-once around (AOA) and RTL conditions were to be tested, SRB/ET test requirements, and an addition to the wind tunnel test coordination procedure (biweekly teleconferences were initiated to allow premeeting test approval and definition of problem areas).

#### SSECP-WTP Meeting No. 5

The fifth panel meeting was held in November 1973. The Aerodynamics Subsystem Manager reviewed the separate milestones for the Orbiter Project and the Space Shuttle Program (Integrated Vehicle). Orbiter Vehicle No. 1 (OV-101) would be used in the ALT Program and Orbiter Vehicle No. 2 (OV-102) would be used in the Orbital Flight Test (OFT) program. Each had separate management reviews. In addition, delta PDR's and delta CDR's were set for OV-101 approximately 6 months after the scheduled PDR and CDR. The Aerodynamics Subsystem Manager established an "Aerodynamics PDR" to accomplish two objectives. The first was the documentation of the source and the analysis of the aerodynamic data and methods in the "Aerodynamics Substantiation Report." The second objective of this review would be to establish an aerodynamics verification plan, using flight and wind tunnel data, that would increase the confidence in the design data.

Orbiter aerodynamic issues for Vehicle 4 added since the last panel meeting were the effectiveness of vertical fins (increased yaw stability) and the effect of increasing the wing leading-edge radius on stability and control. Ascent aerodynamics tests continued on separation/plume effects including RTL separation of slightly higher speeds. Airloads issues were the acquisition of detailed pressure distributions with RCS plume simulation effects, for prelaunch, for asymmetric effects such as attach fittings and the ET external feedline, for ABPS effects, and for powered SRB separation. SRB concerns were Reynolds number effects (chute deployment altitude and attitude), high Mach/high stability (chute altitude); strakes, and sting interference (accuracy of data). The plume technology tests by the MSFC included analysis of air/CF<sub>4</sub>

testing, plans to test at higher chamber pressure ratios, SRB hot gas test activities, and solid body plume testing for Reynolds number effects. Aerothermodynamics testing was being done to address boundary-layer transition effects, specific heat ratio effects, and detailed heating definitions for a ventral fin, the wing leading edge and TPS gaps.

#### SSECP-WTP Meeting No. 6

The sixth wind tunnel meeting was held in March 1974, directly following the OV-101 PDR in February. The results of the PDR presented by JSC concluded that OV-104 will meet the aerodynamic ground rules and the identified requirements. The Orbiter Vehicle testing requirements for the newly designated Vehicle 5 included viscous interaction effects on hypersonic stability and control. The definition

of aerodynamic data tolerances was improved. Additional stability and control data was required. Sting interference effects, TPS simulation, and air data sensor (ADS) calibrations were added. Integrated Vehicle requirements covered nominal and RTLS staging (build-up data and rudder/elevon hinge moments). Also covered were power-on base drag definition (cold gas, base pressures, wing/vertical tail bending moments, and hot/cold gas comparisons). RCS effectiveness (hot/cold gas for RTLS) and mated vehicle aerodynamics (second stage, sting effects, SRB nose/skirt parametrics) were included. Airloads test requirements were discussed. Rockwell was requested to combine the objectives of the planned airloads/force test, plume effects test, and the base drag assessment test. A long-term schedule for structural dynamics showed the need for TPS development tests to support the planned TPS PDR in November 1974. Aerothermodynamic test requirements covered the effects of protuberances, penetrations and gaps on heating, and RTLS abort heating (high  $\alpha$ 's). Plume tests planned included development base convective heating and pressure. These tests also included plume/boundary-layer interactions, "creep" heating and pressure, RTLS abort heating and pressure, and launch pad/Integrated Vehicle interaction heating. Entry heating tests were planned for updated overall configuration heating and pressure, wing leading-edge heating, and SSME nozzle heating. SRB planned tests were to obtain updated configuration stability and heating/pressure distributions as well as drogue deployment feasibility data. Similar testing was to be done for the ET. In addition, a test to define SRB sonic boom characteristics was planned.

#### SSECP-WTP Meeting No. 7

This meeting was held in July 1974. Because of uncertainty regarding the SSV 1975 Fiscal Year budget the panel meeting had been delayed for a month. During this period JSC had requested Rockwell to organize their proposed testing to meet a "minimum requirements" program for the Vehicle 5 configuration. Proposed Orbiter aerodynamics testing addressed the evaluation of recent design changes (elevon gaps, OMS pods, differential elevons, and elevon flapper doors). Also addressed was the determination of viscous interaction effects on hypersonic stability and control. Inboard/outboard split elevon effectiveness, RCS simulation improvement, and testing required to support TPS simulation was also discussed. Integrated Vehicle tests were proposed to obtain basic aerodynamics for Vehicle 5. This included elevon/rudder/bodyflap hinge moments, wing root bending and torsion, and plume effects (on base pressures, nozzle loads, elevon characteristics). Separation testing was planned for nominal conditions at high  $\alpha$ 's and  $\beta$ 's, and for RTLS conditions with RCS jet simulation. SRB alone tests covered entry stability, nozzle hinge moments, Reynolds number effects, and pressure distributions for both venting studies and load calculations. ET tests would cover protuberance loads and sonic boom characteristics. Airload tests were to be conducted for pressures near the Orbiter nose and main wheel well (thermal blanket survival assessment). Flow visualization and wake mixing data, exhaust plume effects, elevon deflection effects on wing pressures, and element pressures (Orbiter, ET and SRB mated) were also tested. Structural dynamics testing was for aeroacoustic effects on the TPS (structural panel tests), flutter with TPS (structural panel), and flutter for the wing/elevon-fin rudder components. Aerothermodynamics tests concentrated on TPS tile gaps with pressure gradients. Thin film gauge instrumented Orbiter/ET attach structure for the ascent phase and surface roughness (paint) and canopy/forebody heating rates for entry conditions was also tested. For the carrier program, testing was about to begin. The Boeing Company had been awarded the contract the

previous month. Some preliminary design support tests had been done leading up to carrier ATP. Now the detail design test requirements had to be done in preparation for carrier PDR in November 1974. Near-term testing included mated vehicle stability and control for takeoff. Cruise and landing (including effects of Orbiter incidence, Orbiter position, tailcone shape and carrier vertical tail modifications) were tested. Separation configuration development (Reynolds number effects and separation matrix definition) and tailcone configuration definition were tested as well. —

At this stage of the program, the major configuration changes had been made. The bulk of the future tests would be for configuration refinements, data verification, and contingency issues. It was decided therefore, to reduce the quarterly panel meetings to three per year after the next meeting.

#### SSECP-WTP Meeting No. 8

The eighth meeting of the panel took place in October 1974. Program schedules were presented and discussed in terms of events related to the panel subsystem manager's responsibilities. Fabrication of most of the Orbiter structure for OV-101 was completed and assembly had begun.

Major aerodynamic issues for the Orbiter were the following:

- a. Increased drag caused by the shortened (blunted) OMS pods
- b. Unaccounted wave drag caused by TPS tile steps
- c. Initiation of a test program for the entry ADS probes
- d. Decrease in pitching moment caused by viscous-interaction effects
- e. Corrections for base sting and SSME nozzle effects
- f. Influence of RCS "RT" (product of gas constant and temperature) scaling and Mach effect on entry RCS simulation
- g. Reduced rudder effectiveness caused by air leakage through the rudder hinge line gap.

Integrated Vehicle aerodynamic issues discussed were Vehicle 5 power-on base drag test results (higher drag level than the latest data book). Also discussed were the Vehicle 5 power-off forebody drag (recent tests show higher drag) and elevon deflection schedules for hinge moment actuator load relief. For the carrier program, a requirement to land with the tailcone had been added. Therefore a test series was initiated to address this configuration. SRB testing covered Reynolds number effects, updated configuration stability and control, and nozzle hinge moments. ET tests included Orbiter/ET fairing optimization, Reynolds number effects, dynamic stability verification, and plume simulation effects. Entry heating tests were planned to obtain the effects of forebody boundary-layer transition and surface roughness, surface seals and cavities, leading-edge radius, and TPS gaps. Integrated Vehicle heating tests covered updated configuration heating distributions, protuberance effects, and base convective heating/pressures. Structural dynamics tests were to be done for wing and vertical tail flutter boundary updates.

#### SSECP-WTP Meeting No. 9

This meeting was held in May 1975. Orbiter aerodynamic concerns were trim capability near Mach 5, loads exceeding the transonic elevon hinge moment limits, Reynolds number effects, ALT airloads, and continued air data probe calibrations. The Integrated Vehicle testing plans were for RTL separation and airloads with plumes (hinge moments, venting pressures). The carrier aerodynamic issues were strut (Orbiter) effects, launch separation, captive vehicle airloads, and tailcone off buffet alleviation. Orbiter heating tests and analyses addressed the establishment of smoothness criteria, preventing early flow transition, and elevon dynamic seal heating. Ascent heating concerns were Vehicle 5 heating and pressure distributions and plume effects on base heating at high altitudes. Structural dynamics testing was on panel flutter with and without TPS, aeronoise during ascent, and rigid Orbiter tests to predict buffet onset (including canopy effects).

#### SSECP-WTP Meeting No. 10

The tenth panel meeting was held in October 1975. Orbiter aerodynamics concerns to be addressed included viscous interaction and real-gas effects. Also discussed were effects of new outer mold lines (OML) caused by TPS thickness redefinition, ALT vehicle tailcone data deficiencies, and air data probe (forebody model) calibrations. Integrated Vehicle aerodynamic issues were force and moment element data with an updated elevon deflection schedule. Other issues were RTL abort separation with force and aft RCS effects, AADS feasibility, airloads update, and effects of protuberances and attach hardware. Entry heating tests involved the definition of boundary-layer transition. For the Integrated Vehicle, heating tests continued on Vehicle 5 heating and pressure distributions, and protuberance effects. Structural dynamics concerns were for Orbiter Nomex felt panel flutter.

#### SSECP-WTP Meeting No. 11

A review of the remaining test program in this March 1976 meeting indicated that because of the advance approval management procedure that was used, the Wind Tunnel Panel's role was essentially completed. The panel decided to dissolve itself after the next meeting and transfer the management of any future tests to the respective subsystem managers.

The OV-101 vehicle had been assembled and was approaching the Shuttle ALT CDR. The OV-102 vehicle OML definition had been signed off, fabrication had started, and assembly was 4 months off. Orbiter aerodynamic issues concerned

- a. Verification of the OV-102 lines at subsonic and transonic speeds
- b. Nonlinear aerodynamic control surface characteristics (LaRC-supported)
- c. Predictions of aeroelastic effects
- d. Evaluation of the ALT ADS calibrations (side probes and nose boom) and OV-102 ADS test plans
- e. Aerodynamic loads on landing gear (which are gravity operated) struts and doors.



f. Tailcone on data (ground effects, airloads, hinge moment effects, and test support system tares).

Integrated Vehicle studies concentrated on continuation of tests on elevon relief (to maintain both wing root loads and elevon hinge moments within design limits), AADS feasibility, and RTL separation. Carrier aerodynamic issues were verification of the data base for mated vehicle launch and cruise configuration, take-off and landing configuration, and separation. Structural dynamics tests continued on the effects of local shocks and aero noise on the TPS. Integrated Vehicle and Orbiter heating tests continued to address localized heating and configuration updates.

#### SSECP-WTP Meeting No. 12

At this last official meeting of the panel in September 1976, it was requested that each remaining test be identified to the appropriate subsystem manager in detail and in writing. The subsystem managers would then review these test data requirement packages (test description sheets for the remainder of the program and detailed run schedules through July 1977). An assessment of the occupancy hours would be made by the facility representatives. Then a memorandum would be sent from the JSC Director requesting that these tests be conducted. It was estimated that the current percent of SSV test completion was 83 percent for aerodynamics, 62 percent for heating, and 71 percent for structural dynamics. Test hours estimated for completion were 40,700 with 29,900 having been accomplished, or 73 percent. Projected testing that remained would be primarily in the areas of verification testing and "as-built" configuration testing. The purpose of verification testing was to furnish data for the design data uncertainties analysis. The "as-built" tests would address data gaps, configuration updates and discrepancies, and data discrepancies. These latter tests would be in the highest quality facilities available using completely new high fidelity models.

Remaining Orbiter aerodynamic testing addressed the entry ADS, refinement of stability and control and hinge moments, aeroelastic effects (wing and vertical tail), hypersonic viscous interaction/real-gas effects, and various off-nominal flight conditions. Integrated Vehicle tests would cover refined plume effects, the AADS calibration, and contingency airloads. Orbiter and Integrated Vehicle heating addressed configuration updates and localized heating regions. Structural dynamics tests were to be conducted on updated configurations for flutter/buffet, panel (TPS) flutter, oscillatory pressure effects, hypersonic bodyflap buzz, and ground winds data verification. Tests were also to continue through 1976 on SRB recovery conditions and for updated SRB and ET configuration aerodynamics, structural dynamics, and heating.

#### SSECP-WTP Special Meeting

In November 1977, a special meeting of the panel was held to update the remaining test program through the First Manned Orbital Flight (FMOF). Contingency and postflight verification tests were scheduled and were to be canceled as soon as it was determined they were not necessary.

## 7. WIND TUNNEL TEST PROGRAM

As previously discussed, obtaining the aerodynamic, aerothermodynamic, and structural characteristics for the design and development of the SSV configurations necessitated the formulation and execution of an extensive wind tunnel testing program. To minimize costs, plans were made to make maximum use of NASA test facilities and to fabricate multipurpose wind tunnel models. The contractor Phase C/D wind tunnel test program, which began in September 1972, was formally completed in September 1983.

In the formal Rockwell proposal, the estimated wind tunnel test program consisted of 18,900 hours for the Orbiter and 7,100 hours for the mated launch vehicle and the elements for a total of 26,000 hours. During the test program, several management decisions required major configuration changes. Changes such as Orbiter sizing, Orbiter/carrier concept, launch vehicle operational concepts, etc. (fig. 3.1 and 3.2 for the major design evolution characteristics). This resulted in a substantial increase over the initially proposed number of test hours. Overall the prime contractor-utilized approximately 46,500 wind tunnel test hours in the Phase C/D time period. Table 7.1 presents a summary of the test hours per major configuration, for the various disciplines, together with the number of supporting models. As a projection of the cost for the test program, the facility hours and models are shown with their estimated costs. Fig. 7.1 illustrates the occupancy hours for the various configurations per discipline, in comparison with similar large-scale test programs.

In addition to the Rockwell Phase C/D wind tunnel test program, MSFC and LaRC major-supporting test programs during this time amounted to approximately 20,000 hours. The MSFC, having direct responsibility to the SSV program, expended approximately 7,000 hours performing in-house SSV technology tasks. JSC conducted approximately 1,800 hours of tests, primarily in direct support of Orbiter aerodynamics.

Wind tunnel facilities used in the test program were chosen based on the tunnel's capability to simulate the required test conditions. However, the selection was also based on the facilities cost and efficiency. For this reason, nearly 71 percent of the test program was conducted in NASA facilities. Specifically, 41 percent was done at ARC, 17 percent at MSFC, 13 percent at LaRC, and 1 percent at LeRC.

To assist in the test program management and coordination, a test coding system was developed. The tests were divided into groups each representing the particular organization which was directly responsible for that test (i.e. Rockwell, LaRC, MSFC, etc.). Each test was given an alpha/numeric identification code. For the Rockwell tests, the first of the two alpha characters indicated whether the tests were for the Orbiter (O), Integrated Vehicle (I), carrier aircraft (C), external tank (T), or solid rocket booster (S) configuration. The second alpha character denoted the area of discipline to be evaluated: aerodynamics (A), heating (H), or structures (S). The numerical characters represented the chronological order of the tests. It should be noted that the airloads and the ascent phase separation aerodynamics are listed under "A". Structures tests are predominately structural dynamics tests (as opposed to airloads tests). Also the heating test program included some pressure

distribution testing that was done simultaneously (at the identical test conditions) with the heating tests to ensure data analysis compatibility.

For those support tests conducted by the various NASA centers, the first alpha character was changed from the above description and was used in identifying the center as LaRC (L), MSFC (F), ARC (A), and JSC (M), with the remainder of the identification code the same as previously explained.

A summary of the total test program is given in table 7.2 and the detailed lists of tests for the Orbiter, Integrated Vehicle, carrier vehicle, ET and SRB's are contained in appendices A1 through A5, respectively. Each table gives the test number (or ID), the test schedule, the occupancy hours that were estimated and that were charged by the facility (actual "fan-on" hours), the actual number of runs conducted, the model reference designation (see "Configuration Evolution" section) and model ID (Refer to "Wind Tunnel Test Models" section), the facility used (Refer to "Wind Tunnel Facilities" section) and the facility-designated test number, and the DATAMAN document number and status (Refer to "Documentation" section). Not shown in the test program listings is approximately 660 hours representing 12 Orbiter ADS probe-alone tests.

TABLE 7.1. - FACILITY HOURS AND ESTIMATED COST FOR THE PRIME CONTRACTOR

| ALT/CARRIER                              | HOURS<br>COST | AERODYNAMICS |  | HEATING | STRUCTURAL<br>DYNAMICS |  | TOTAL  |
|--|---------------|--------------|--|---------|------------------------|--|--------|
|  |               |              |  |         |                        |  |        |
| ENTRY                                    |               | 3,500        |  | —       | 400                    |  | 3,900  |
|  |               | 5.3m         |  | —       | 0.6m                   |  | 5.9m   |
| ASCENT                                   | HOURS<br>COST | 17,000       |  | 5,400   | 2,500                  |  | 24,900 |
|  |               | 25.5m        |  | 8.1m    | 3.7m                   |  | 37.3m  |
| FACILITY TOTAL                           | HOURS<br>COST | 10,300       |  | 6,000   | 900                    |  | 17,200 |
|  |               | 15.4m        |  | 9.0m    | 1.4m                   |  | 25.8m  |
| MODEL TOTAL                              | HOURS<br>COST | 30,800       |  | 11,400  | 3,800                  |  | 46,000 |
|  |               | 46.2m        |  | 17.1m   | 5.7m                   |  | 69.0m  |
| ESTIMATED<br>WIND TUNNEL<br>PROGRAM COST | NO.<br>COST   | 45           |  | 34      | 21                     |  | 100    |
|  |               | 12.6m        |  | 9.0m    | 4.9m                   |  | 26.5m  |
|  | TOTAL         | 58.8m        |  | 26.1m   | 10.6m                  |  | 95.5m  |

NOTE: m = MILLION DOLLARS

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TABLE 7.2. - PHASE C/D SSV COMPILATION OF THE  
WIND TUNNEL TESTING TOTAL ACTUAL PROGRAM

| AERODYNAMICS |       |              |        | HEATING |              |        |       | STRUCTURES   |        |       |              | TOTAL |              |
|--------------|-------|--------------|--------|---------|--------------|--------|-------|--------------|--------|-------|--------------|-------|--------------|
| TEST         | HOURS | NO. OF TESTS | TEST   | HOURS   | NO. OF TESTS | TEST   | HOURS | NO. OF TESTS | TEST   | HOURS | NO. OF TESTS | HOURS | NO. OF TESTS |
| OA           | 16988 | 149          | OH     | 5387    | 79           | OS     | 2487  | 40           | OS     | 2487  | 40           | 24862 | 268          |
| IA           | 10275 | 104          | IH     | 5936    | 46           | IS     | 854   | 10           | IS     | 854   | 10           | 17065 | 160          |
| CA           | 3470  | 23           | CH     | 0       | 0            | CS     | 425   | 6            | CS     | 425   | 6            | 3895  | 29           |
| RI/TOT       | 30733 | 276          | RI/TOT | 11323   | 125          | RI/TOT | 3766  | 56           | RI/TOT | 45822 | 457          |       |              |
| SA           | 3494  | 27           | SH     | 344     | 4            | SS     | 1576  | 15           | SS     | 1576  | 15           | 5414  | 46           |
| TA           | 472   | 5            | TH     | 72      | 2            | TS     | 0     | 0            | TS     | 0     | 0            | 544   | 7            |
| MA           | 3030  | 28           | MH     | 75      | 2            | MS     | 0     | 0            | MS     | 0     | 0            | 3105  | 30           |
| FA           | 4465  | 24           | FH     | 324     | 6            | FS     | 824   | 6            | FS     | 824   | 6            | 5613  | 38           |
| LA           | 10231 | 128          | LH     | 0       | 0            | LS     | 0     | 0            | LS     | 0     | 0            | 10231 | 128          |
| AA           | 568   | 5            | AH     | 0       | 0            | AS     | 0     | 0            | AS     | 0     | 0            | 568   | 5            |
| TOTAL        | 52993 | 493          | TOTAL  | 12138   | 139          | TOTAL  | 6166  | 77           | TOTAL  | 71297 | 711          |       |              |

## 8. WIND TUNNEL TEST FACILITIES

Many facilities were required to simulate the particular flight conditions that would provide the design of the many SSV configurations. These data had to be accumulated over the entire range of flight conditions that would be encountered from launch through entry and then some. The selection of a tunnel, for any particular test was based on the tunnel's capabilities to simulate required flight conditions, principally Mach and Reynolds number. However, selection was also based on the facility, convenience, and operational economy when there were possible alternate choices.

There were three primary types of wind tunnels used.

a. Continuous flow tunnels. These tunnels permit uninterrupted testing until all required data are obtained on a particular configuration. Models and test conditions of Mach number, Reynolds number, and angle of attack and sideslip are set up and the air (or test medium) is recirculated until run completion.

b. Intermittent tunnels (blowdown tunnels). These tunnels have an operating time from several seconds to a few minutes. They have storage tanks charged with pressurized air that is suddenly released, and data are taken over a short blowdown time span.

c. Impulse tunnels. These tunnels are designed for the simulation of high Mach number values. They have a very short run time, in the order of milliseconds. Instrumentation of the models for this type of tunnel must have high response for the instantaneous recording of the necessary data.

The capability of the various facilities to match the combined Reynolds number/Mach number flight conditions is given in fig. 8.1(a) for ascent and fig. 8.1(b) for entry. In the high hypersonic regime (Mach number above 5) the viscous parameter,  $\bar{V}_\infty$ , was used as the correlation parameter rather than Reynolds number (see fig. 8.2). Facility information for the SSV test program is summarized in table 8.1 grouped by speed category. The facility name, type, test section size, Mach number range, Reynolds number range and typical model scales is given.

The choice of facility for any given test was determined by selecting the one which could approximate flight conditions. Flight conditions were approached through control of the geometric similarity and scale of models (properly instrumented) and tunnel control of

a. Reynolds number, which is the ratio of the test medium's inertia force to the viscous force. The similarity between a model and prototype is realized when the dimensionless Reynolds number for the model equals the Reynolds number for the prototype. In some instances, it was the objective of a particular wind tunnel test to show that the effect of varying the Reynolds number is a negligible factor. Therefore some tests were conducted at several Reynolds number levels.

b. Mach number, which is the ratio of the relative velocity of the vehicle to the speed of sound in the medium.

c. Angle of attack and sideslip, which is the attitude of the model in relation to the free-stream velocity vector in the pitch and yaw planes, respectively.

d. Other parameters such as thrust coefficients, aeroelastic frequencies, separation distances, etc. that had to be simulated for specific tests.

Because of the impossibility of obtaining all of the required data in one facility, it was necessary to use combinations of facilities and models to obtain data over the desired range of flight conditions.

Additionally, there were no tests or combination of tests that could account for all variables such as Reynolds number, Mach number, angle of attack, model size, wind tunnel, or balance choice that could be made in such a manner as to provide all desired data for the determination of aerodynamic characteristics. Therefore, testing was directed to those areas considered most critical to the vehicle's design. With the limited data obtained it was possible to predict, or extrapolate, the aero/thermo/structural characteristics in the untested areas.

The complete phase C/D wind tunnel program is grouped by facility designation and presented in appendix A. The in-house facility test number is given followed by the SSV test designation, test date, hours, runs, model configuration reference and ID, and documentation number.

TABLE 8.1 - LIST OF SOME OF THE MAJOR SUPPORTIVE TEST FACILITIES

| FACILITY<br>NAME                    | TYPE       | TEST<br>SECTION | MACH<br>NUMBER | REYNOLD'S NUMBER<br>X 10 <sup>6</sup> /FT | MODEL SCALE<br>RANGE |
|-------------------------------------|------------|-----------------|----------------|---|----------------------|
| SUBSONIC                            |            |                 |                |   |                      |
| =====                               |            |                 |                |   |                      |
| ARC 12-FT PRESSURE TUNNEL           | CONTINUOUS | 11.3 BY 11.3 FT | 0.0 - 0.9      | 0.0 - 9.0                                 | 1.5 - 5.0            |
| ARC 40- BY 80-FT SUBSONIC TUNNEL    | CONTINUOUS | 40.0 BY 80.0 FT | 0.0 - 0.3      | 0.0 - 2.1                                 | 33.33                |
| TBC V/STOL TUNNEL                   | CONTINUOUS | 20.0 BY 20.0 FT | 0.0 - 0.1      | 0.0 - 2.5                                 | 4.0                  |
| LARC LOW TURBULENCE PRESS. TUNNEL   | CONTINUOUS | 7.5 BY 3.0 FT   | 0.1 - 0.4      | 0.6 - 15.0                                | 2.0                  |
| LARC V/STOL                         | CONTINUOUS | 14.5 BY 21.5 FT | 0.0 - 0.3      | 0.0 - 0.5                                 | 4.0                  |
| LTV 15- BY 20-FT SUBSONIC TUNNEL    | CONTINUOUS | 15.0 BY 20.0 FT | 0.0 - 0.1      | 0.6 - 0.5                                 | 5.0                  |
| RI 7- BY 10-FT LOW SPEED TUNNEL     | CONTINUOUS | 7.0 BY 10.0 FT  | 0.0 - 0.3      | 0.0 - 2.0                                 | 2.0 - 4.0            |
| TAMU 7- BY 10-FT SUBSONIC TUNNEL    | CONTINUOUS | 7.0 BY 10.0 FT  | 0.0 - 0.3      | 0.0 - 1.9                                 | 4.0                  |
| UNIV. OF WASH. 8- BY 12-FT TUNNEL   | CONTINUOUS | 8.0 BY 12.0 FT  | 0.0 - 0.3      | 0.0 - 1.8                                 | 4.0                  |
| TRANSONIC                           |            |                 |                |   |                      |
| =====                               |            |                 |                |   |                      |
| ARC 11- BY 11-FT TRANSONIC TUNNEL   | CONTINUOUS | 11.0 BY 11.0 FT | 0.5 - 1.4      | 1.7 - 9.4                                 | 2.0 - 5.0            |
| ARC 2-FT TRANSONIC TUNNEL           | CONTINUOUS | 2.0 BY 2.0 FT   | 0.6 - 1.4      | 0.5 - 8.7                                 | -----                |
| ARC 14-FT TRANSONIC TUNNEL          | CONTINUOUS | 13.5 BY 14.0 FT | 0.6 - 1.2      | 2.8 - 5.2                                 | 1.25 - 3.0           |
| AEDC 4-FT PROPULSION TUNNEL         | CONTINUOUS | 4.0 BY 4.0 FT   | 0.2 - 1.3      | 0.2 - 7.0                                 | 0.6                  |
| AEDC 16-FT TRANSONIC TUNNEL         | CONTINUOUS | 16.0 BY 16.0 FT | 0.2 - 1.6      | 0.2 - 6.0                                 | 2.0 - 3.0            |
| TBC TRANSONIC WIND TUNNEL           | CONTINUOUS | 8.0 BY 12.0 FT  | 0.2 - 1.2      | 0.0 - 4.0                                 | 4.0                  |
| CAL 8-FT TRANSONIC TUNNEL           | CONTINUOUS | 8.0 BY 8.0 FT   | 0.0 - 1.4      | 0.7 - 7.0                                 | 1.5 - 2.0            |
| LARC 8-FT TRANSONIC PRESS. TUNNEL   | CONTINUOUS | 7.1 BY 7.1 FT   | 0.2 - 1.3      | 0.1 - 6.0                                 | 1.5 - 2.0            |
| LARC 16-FT TRANSONIC DYNAMIC TUNNEL | CONTINUOUS | 16.0 BY 16.0 FT | 0.2 - 1.6      | 0.0 - 9.7                                 | 2.0 - 4.0            |
| LARC 16-FT TRANSONIC TUNNEL         | CONTINUOUS | 16.0 BY 16.0 FT | 0.2 - 1.3      | 1.2 - 3.7                                 | 1.5 - 5.0            |
| LTV HIGH SPEED WIND TUNNEL          | INTERMIT   | 4.0 BY 4.0 FT   | 0.2 - 5.0      | 2.0 - 38.0                                | 1.5                  |



TABLE 8.1 - CONCLUDED

| FACILITY<br>NAME                   | TYPE       | TEST<br>SECTION    | MACH<br>NUMBER | REYNOLD'S NUMBER<br>X 10 <sup>6</sup> /FT | MODEL SCALE<br>RANGE |
|------------------------------------|------------|--------------------|----------------|---|----------------------|
| SUPERSONIC                         |            |                    |                |   |                      |
| =====                              |            |                    |                |   |                      |
| ARC 8- BY 7-FT SUPERSONIC TUNNEL   | CONTINUOUS | 8.0 BY 7.0 FT      | 2.4 - 3.5      | 0.5 - 5.0                                 | 2.0 - 5.0            |
| ARC 9- BY 7-FT SUPERSONIC TUNNEL   | CONTINUOUS | 9.0 BY 7.0 FT      | 1.5 - 2.6      | 0.8 - 6.5                                 | 2.0 - 5.0            |
| ARC 6- BY 6-FT SUPERSONIC TUNNEL   | CONTINUOUS | 6.0 BY 6.0 FT      | 0.6 - 2.2      | 0.5 - 5.0                                 | 1.5                  |
| AEDC TUNNEL "A"                    | CONTINUOUS | 3.3 BY 3.3 FT      | 1.5 - 6.0      | 0.3 - 9.2                                 | 1.0 - 2.0            |
| AEDC 16-FT SUPERSONIC TUNNEL       | CONTINUOUS | 16.0 BY 16.0 FT    | 1.5 - 2.4      | 0.2 - 2.5                                 | 1.0 - 2.0            |
| LARC UNITARY PLAN TUNNELS          | CONTINUOUS | 4.0 BY 4.0 FT      | 1.5 - 4.6      | 0.4 - 8.0                                 | 1.0 - 2.0            |
| LERC 10-BY 10-FT SUPERSONIC TUNNEL | CONTINUOUS | 10.0 BY 10.0 FT    | 2.0 - 3.5      | 0.1 - 3.4                                 | 2.0 - 4.0            |
| RI 7- BY 7-FT TRISONIC TUNNEL      | INTERMIT   | 7.0 BY 7.0 FT      | 0.1 - 3.5      | 2.0 - 17.0                                | 0.4 - 1.5            |
| MSFC 14-INCH SUPERSONIC TUNNEL     | INTERMIT   | 14-INCH DIA.       | 0.6 - 4.5      | 3.0 - 18.0                                | 0.4                  |
| HYPERSONIC                         |            |                    |                |   |                      |
| =====                              |            |                    |                |   |                      |
| ARC 3.5-FT HYPERSONIC TUNNEL       | INTERMIT   | 3.5-FT DIA.        | 5 & 7.5        | 0.3 - 7.4                                 | 1.0 - 1.75           |
| AEDC TUNNEL "B"                    | CONTINUOUS | 50-INCH DIA.       | 6 & 8.0        | 0.3 - 5.3                                 | 1.0 - 2.0            |
| AEDC TUNNEL "C"                    | CONTINUOUS | 50-INCH DIA.       | 10 & 12        | 0.3 - 2.4                                 | 1.5                  |
| AEDC TUNNEL "D"                    | CONTINUOUS | 1.0 BY 1.0 FT      | 1.5 - 5        | 0.3 - 16.0                                | 1.75.0               |
| AEDC TUNNEL "F"                    | INTERMIT   | 25-INCH DIA.       | 7              | 4.5 - 45.0                                | 1.0 - 1.75           |
| CAL 8-FT HYPERSONIC TUNNEL         | SHOCK      | 72-INCH DIA.       | 6              | 0.0 - 75.0                                | 1.0.5 - '24          |
| NSWC TUNNEL "9"                    | SHOCK      | 5-FT DIA.          | 1              | 0.4 - 5.8                                 | 2.04                 |
| LARC 20-INCH MACH 6 TUNNEL         | INTERMIT   | 20 BY 20 INCH      | 6              | 0.7 - 9.3                                 | 0.4 - 1.0            |
| LARC VARIABLE DENSITY TUNNEL       | INTERMIT   | 18-INCH DIA.       | 7              | 0.1 - 12.0                                | 0.6.5 - 8.0          |
| LARC CONT. FLOW HYPERSONIC TUNNEL  | INTERMIT   | 31 BY 31 INCH DIA. | 10,11,12       | 0.3 - 2.3                                 | 0.6 - 1.0            |
| LARC 22-INCH HELIUM TUNNEL         | INTERMIT   | 22.5-INCH DIA.     | 18 - 22        | 0.7 - 11.3                                | 0.4                  |
| LARC HYPERSONIC NITROGEN TUNNEL    | INTERMIT   | 19-INCH DIA.       | 19             | 0.2 - 1.3                                 | 0.4 - 0.6            |
| LARC 20-INCH FREON TUNNEL          | INTERMIT   | 20-INCH DIA        | 6              | 0.2 - 1.0                                 | 0.4 - 0.6            |
| LARC 4-FT HYPERSONIC TUNNEL        | INTERMIT   | 48-INCH DIA.       | 8 - 18         | 0.0 - 1.0                                 | 0.4                  |

## 9. WIND TUNNEL TEST MODELS

Based on the range of flight regimes that were to be evaluated in developing the design of the SSV, a total of over 100 models were eventually required. The model scales range from 0.4 to 36 percent of the full-scale configuration. Exceptions to these scales were the full scale testing of specialized components such as control panels, TPS tile with gaps, etc. Model size was determined by the required testing parameters and the effective tunnel size for attaining flight simulation with minimum tunnel interference. The models were geometrically scaled and manufactured to extremely close tolerances to obtain accurate data. Later models incorporated finer details of external protuberances, surface roughness and indentations, as shown graphically in fig. 9.1.

Force models, which measure the three forces and three moments that define the overall performance and stability of the vehicle, were the primary source for obtaining the aerodynamics of the SSV configurations. In the early tests when basic force and moment testing was being done in the low speed facilities, wooden models were used. Soon after, for testing in the high speed/pressurized facilities, the models were made of aluminum and/or stainless steel. Ultimately, for hypersonic facilities, the models were constructed of heat-treated steel.

Heat transfer models were used to establish the flow field and the temperature distribution about the vehicle. The models were either made of a plastic-like material or they were stainless steel models. The former type models were used to define the flow patterns using oil-flow photographs. The stainless steel models were fitted with thermocouples (and/or calorimeters) to define the temperature distribution and stagnation heating for a range of trajectory conditions.

Pressure models were used to obtain detailed surface pressure-distributions to assist in the airloads analysis and to design the various structural components of the SSV configurations. Pressure models were basically the same as the force models (and in some cases identical models). They were fabricated from aluminum and/or steel. The major differences, however, were the multitude of pressure ports located over the surface of the model and the required plumbing located in the interior of the model to measure all the pressures.

Aeroelastic models were used to measure the torsional, shear, and bending characteristics of a particular component. The elastic models were force models with the component to be evaluated (e.g. the vertical tail or wing) being replaced with an elastic component.

Flutter models were used to evaluate the dynamic characteristics of a particular component. Flutter models were usually made of balsa wood with appropriate stiffness. The flutter models are normally tested to destruction.

A summary of various models used is shown in table 9.1 with definition of the model identification (ID), configuration represented, major test discipline, scale, type measurements, and general comments.

Appendix A gives additional information, grouped by model. It includes the test the model was used in, test dates, test hours, number of runs, the facility used (and facility test number), and documentation information.

TABLE 9.1 - SUMMARY OF THE SPACE SHUTTLE WIND TUNNEL MODELS

| MODEL<br>NUMBERS | PRINCIPLE<br>DISCIPLINE   | MODEL<br>SCALE | BASIC<br>FUNCTION         | GENERAL<br>COMMENTS                             |
|------------------|---------------------------|----------------|---------------------------|---|
| 1-OTS            | AERODYNAMICS              | 0.004          | FORCE & MOMENTS           | MODIFIED PRE-ATP STABILITY & CONTROL MODEL      |
| 2-0              | AERODYNAMICS              | 0.045          | FORCE & MOMENTS           | PRELIMINARY SUBSONIC STABILITY & CONTROL MODEL  |
| 3-OT             | THERMODYNAMICS            | 0.006          | PAINT                     | HEAT TRANSFER DISTRIBUTION MODEL                |
| 4-OT             | THERMODYNAMICS            | 0.014          | THERMOCOUPLES             | THIN-SKIN ORBITER FOREBODY MODEL (CANOPY)       |
| 5-OT             | THERMODYNAMICS            | 0.015          | THERMOCOUPLES             | THIN SKIN ORBITER FOREBODY MODEL (CANOPY)       |
| 6-OTS            | AERODYNAMICS              | 0.015          | FORCE & MOMENTS           | DEVELOPMENT/STABILITY & CONTROL MODEL           |
| 7-OTS            | AERODYNAMICS              | 0.019          | PRESSURES: JET EFFECTS    | COLD-JET PLUME SIMULATION ASCENT MODEL          |
| 8-0              | STRUCT. DYNAMICS          | 0.046          | AEROELASTIC: ORB/CARRIER  | RIGID ORB/SCA CONFIG. WITH FLEX. 747 VERT. TAIL |
| 9-OTS            | AERODYNAMICS              | 0.0075         | FORCE/PRESS.: SEPARATION  | STABILITY & CONTROL SEPARATION MODEL            |
| 10-OTS           | AERODYNAMICS              | 0.01925        | FORCE GROUND WINDS        | LAUNCH/LAUNCH PAD SIMULATION MODEL              |
| 11-OTS           | STRUCT. DYNAMICS          | 0.04           | PRESSURES                 | AERO NOISE MODEL                                |
| 12-0             | -----CANCELLED, NOT BUILT |                |                           |   |
| 13-OTS "F"       | AERODYNAMICS              | 0.004          | FORCE/PRESSURE            | STABILITY & CONTROL MODEL                       |
| 13-OTS "p"       | AERODYNAMICS              | 0.004          | PRESSURES                 | PRESSURE MODEL                                  |
| 14-OTS           | AERODYNAMICS              | 0.019          | FORCE/PRESS.: JET EFFECTS | COLD-JET PLUME SIMULATION ASCENT MODEL          |
| 15-0             | THERMODYNAMICS            | 1.000          | THERMOCOUPLES: HRSI TILES | FLAT PLATE: THIN SKIN TPS & PROTUBERANCES       |
| 16-0             | AERODYNAMICS              | 0.0405         | FORCE & MOMENTS           | DEVELOPMENT SUBSONIC STABILITY & CONTROL MODEL  |
| 17-OTS           | AERODYNAMICS              | 0.030          | PRESSURE/FORCE            | AIRLOADS MODEL                                  |
| 18-0             | AERODYNAMICS              | 0.015          | FORCE & MOMENTS           | STABILITY & CONTROL MODEL                       |

|        |                           |         |                           |   |
|--------|---------------------------|---------|---------------------------|---|
| 19-OTS | THERMODYNAMICS            | 0.0225  | PRESSURE: JET EFFECTS     | HOT-JET PLUME SIMULATION ASCENT MODEL   |
| 20-0   | -----CANCELLED, NOT BUILT |         |                           |   |
| 21-OT  | THERMODYNAMICS            | 0.0175  | PAINT: JET EFFECTS        | RCS (VARIABLE NOZZLES) SIMULATION MODEL |
| 22-OTS | THERMODYNAMICS            | 0.0175  | THERMOCOUPLES             | THIN SKIN TEMPERATURE MODEL             |
| 23-0   | STRUCT. DYNAMICS          | 0.02    | WING/ELEVON FLUTTER       | PARTIAL WING/ELEVON MODEL               |
| 24-0   | STRUCT. DYNAMICS          | 0.025   | VERT./RUDDER FLUTTER      | PARTIAL VERTICAL/RUDDER MODEL           |
| 25-0   | THERMODYNAMICS            | 0.04    | BASE TRANSDUCERS          | HOT-JET PLUME ASCENT AFTERBODY MODEL    |
| 26-OTS | THERMODYNAMICS            | 0.01    | PRESSURES                 | PRESSURE DISTRIBUTION MODEL             |
| 27-0   | AERODYNAMICS              | 0.015   | FORCE: RCS EFFECTS        | STABILITY & CONTROL / RCS MODEL         |
| 28-OTS | -----CANCELLED, NOT BUILT |         |                           |   |
| 29-0   | THERMODYNAMICS            | 0.0175  | CALORIMETERS              | HEAT TRANSFER DISTRIBUTION MODEL        |
| 30-0   | STRUCT. DYNAMICS          | 0.0125  | STRAIN GAGES: LOADS       | WING REFLECTION PLANE FLUTTER MODEL     |
| 31-0   | THERMODYNAMICS            | 0.00593 | PAINT                     | HEAT TRANSFER DISTRIBUTION MODEL        |
| 32-OTS | AERODYNAMICS              | 0.01    | FORCE & MOMENTS           | STABILITY & CONTROL MODEL               |
| 33-0   | THERMODYNAMICS            | 0.00593 | PAINT                     | HEAT TRANSFER DISTRIBUTION MODEL        |
| 34-OTS | AERODYNAMICS              | 0.004   | FORCE & MOMENTS           | STABILITY & CONTROL MODEL               |
| 35-0   | THERMODYNAMICS            | 0.182   | THERMOCOUPLES             | FLAT PLATE: SHOCK GENERATOR MODEL       |
| 36-OTS | AERODYNAMICS              | 0.015   | PRESSURES                 | RCS VENTING/PLUME MODEL                 |
| 37-OT  | THERMODYNAMICS            | 0.01    | THIN FILM GAGES           | HEAT TRANSFER DISTRIBUTION MODEL        |
| 38-0   | THERMODYNAMICS            | 0.0058  | PAINT                     | HEAT TRANSFER DISTRIBUTION MODEL        |
| 39-0   | AERODYNAMICS              | 0.05    | FORCE & MOMENTS/PRESSURES | VERIFY (SUPERSONIC) S&C/AIRLOADS MODEL  |
| 40-0   | STRUCT. DYNAMICS          | 1.0     | PANEL FLUTTER             | TPS TILE / FLUTTER PANELS               |
| 41-OTS | THERMODYNAMICS            | 0.00593 | THERMOCOUPLES             | HEAT TRANSFER DISTRIBUTION MODEL        |

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|        |                           |         |                           |   |
|--------|---------------------------|---------|---------------------------|---|
| 42-0   | AERODYNAMICS              | 0.015   | FORCE & MOMENTS           | STABILITY & CONTROL / RCS MODEL                   |
| 43-0   | AERODYNAMICS              | 0.0405  | FORCE & MOMENTS           | VERIFICATION (SUBSONIC) STABILITY & CONTROL MODEL |
| 44-0   | AERODYNAMICS              | 0.015   | FORCE & MOMENTS           | STABILITY & CONTROL (REMOTE CONTROLLED) MODEL     |
| 45-0   | AERODYNAMICS              | 0.03    | FORCE & MOMENTS/PRESSURES | STABILITY & CONTROL ORBITER/CARRIER MODEL         |
| 46-0   | THERMODYNAMICS            | 0.00593 | PAINT                     | HEAT TRANSFER DISTRIBUTION MODEL                  |
| 47-OTS | AERODYNAMICS              | 0.03    | PRESSURES/FORCE           | AIRLOADS MODEL                                    |
| 48-0   | AERODYNAMICS              | 0.0125  | FORCE & MOMENTS           | STABILITY & CONTROL ORBITER/CARRIER SEP. MODEL    |
| 49-0   | AERODYNAMICS              | 0.015   | FORCE & MOMENTS           | STABILITY & CONTROL MODEL                         |
| 50-0   | THERMODYNAMICS            | 0.006   | THERMOCOUPLES             | GAMMA EFFECT HEATING MODEL                        |
| 51-0   | AERODYNAMICS              | 0.01    | FORCE & MOMENTS           | STABILITY & CONTROL MODEL                         |
| 52-OTS | AERODYNAMICS              | 0.01    | FORCE & MOMENTS           | STABILITY & CONTROL MODEL                         |
| 53-0   | THERMODYNAMICS            | 0.111   | THERMOCOUPLES             | FLAT PLATE: WING/ELEVON GAP SIMULATION            |
| 54-0   | STRUCT. DYNAMICS          | 0.14    | STRAIN GAGES              | WING/ELEVON FLUTTER MODEL                         |
| 55-0   | STRUCT. DYNAMICS          | 0.14    | STRAIN GAGES              | VERTICAL/RUDDER FLUTTER MODEL                     |
| 56-OTS | THERMODYNAMICS            | 0.0175  | PAINT                     | PHASE CHANGE PAINT MODELS OF VERTICAL STABILIZERS |
| 57-0   | AERODYNAMICS              | 0.1     | PRESSURES-AIR DATA PROBES | ORBITER FOREBODY (NOSE BOOM) MODEL                |
| 58-0   | THERMODYNAMICS            | 1.0     | THERMOCOUPLES & PRESS.    | FLAT PLATE: SHOCK GENERATOR MODELS                |
| 59-OT  | THERMODYNAMICS            | 0.01    | THIN FILM GAGE / PRESS.   | HEAT TRANSFER DISTRIBUTION MODEL                  |
| 60-OTS | THERMODYNAMICS            | 0.0175  | THERMOCOUPLES             | THIN SKIN TEMPERATURE MODEL                       |
| 61-0   | THERMODYNAMICS            | 0.01    | PRESSURES                 | AEROHEATING PRESSURE MODEL                        |
| 62-0   | -----CANCELLED, NOT BUILT |         |                           |   |
| 63-OT  | -----CANCELLED, NOT BUILT |         |                           |   |
| 64-0   | THERMODYNAMICS            | 0.0175  | PAINT                     | WING SECTION (SHOCK GENERATOR) MODEL              |
| 65-0   | THERMODYNAMICS            | 0.04    | PRESSURES: BASE HEATING   | BASE HEATING PLUME MODEL                          |

|        |                           |        |                           |   |
|--------|---------------------------|--------|---------------------------|---|
| 66-0   | THERMODYNAMICS            | 0.025  | THERMOCOUPLES             | WING SECTION (SHOCK GENERATOR) THIN SKIN MOD. |
| 67-OTS | AERODYNAMICS              | 0.015  | FORCE & MOMENTS           | STABILITY & CONTROL MODEL                     |
| 68-T   | AERODYNAMICS              | 0.07   | FORCE & MOMENTS           | STABILITY & CONTROL MODEL                     |
| 69-0   | AERODYNAMICS              | 0.015  | FORCE & MOMENTS           | STABILITY & CONTROL MODEL                     |
| 70-OT  | AERODYNAMICS              | 0.0125 | FORCE & MOMENTS           | STABILITY & CONTROL / RCS MODEL               |
| 71-0   | -----CANCELLED, NOT BUILT |        |                           |   |
| 72-OTS | AERODYNAMICS              | 0.01   | FORCE & MOMENTS           | STABILITY & CONTROL MODEL                     |
| 73-OT  | -----CANCELLED, NOT BUILT |        |                           |   |
| 74-OTS | AERODYNAMICS              | 0.004  | FORCE & MOMENTS           | STABILITY & CONTROL MODEL                     |
| 75-OTS | AERODYNAMICS              | 0.01   | PRESSURES: JET EFFECTS    | COLD-JET PLUME SIMULATION ASCENT MODEL        |
| 76-0   | AERODYNAMICS              | 0.36   | FORCE & MOMENTS/PRESSURES | STABILITY & CONTROL / PRESSURES MODEL         |
| 77-0   | AERODYNAMICS              | 0.004  | FORCE & MOMENTS           | STABILITY & CONTROL (SPOILERS) MODEL          |
| 78-0   | -----CANCELLED, NOT BUILT |        |                           |   |
| 79-OTS | STRUCT. DYNAMICS          | 0.055  | STRAIN GAGE/FLUTTER/RIGID | RIGID STABILITY CHECKOUT MODEL                |
| 80-0   | STRUCT. DYNAMICS          | 0.055  | STRAIN GAGE/FLUTTER       | AEROELASTIC STRUCTURAL DYNAMIC MODEL          |
| 81-0   | STRUCT. DYNAMICS          | 1.0    | STRAIN GAGE:PANEL FLUTTER | TPS STRUCTURAL PANEL MODEL                    |
| 82-0   | THERMODYNAMICS            | 0.04   | PAINT                     | HEAT TRANSFER FOREBODY MODEL                  |
| 83-0   | THERMODYNAMICS            | 0.04   | THERMOCOUPLES             | HEAT THIN-SKIN FOREBODY MODEL                 |
| 84-OTS | STRUCT. DYNAMICS          | 0.035  | PRESSURES                 | AIRLOADS/AERO NOIS MODEL                      |
| 85-0   | STRUCT DYNAMICS           | 1.0    | THERMOCOUPLES:FRSI TILES  | FLAT PLATE: FRSI TILE PANEL                   |
| 86-OT  | -----CANCELLED, NOT BUILT |        |                           |   |
| 87-OTS | -----CANCELLED, NOT BUILT |        |                           |   |
| 88-OTS | AERODYNAMICS              | 0.02   | FORCE & PRESS: JET EFFECT | COLD-JET SIMULATION ASCENT MODEL              |
| 89-0   | AERODYNAMICS              | 0.02   | FORCE & MOMENTS           | STABILITY & CONTROL MODEL                     |

|         |                           |        |                            |  |
|---------|---------------------------|--------|----------------------------|--|
| 90-0    | THERMODYNAMICS            | 0.005  | THERMAL PAINT              | HEAT TRANSFER DISTRIBUTION                 |
| 91-0    | THERMODYNAMICS            | 0.08   | THERMOCOUPLES: WING TIPS   | THIN-SKIN WING/WING TIP SEAL MODEL         |
| 92-0    | THERMODYNAMICS            | 0.0175 | PRESSURE                   | WING/ELEVON PRESSURE DISTRIBUTION MODEL    |
| 93-0    | THERMODYNAMICS            | 0.04   | THERMOCOUPLES              | ELEVON/ELEVON SEAL MODEL                   |
| 94-0    | THERMODYNAMICS            | 0.03   | PAINT                      | LOWER WING SURFACE SECTION MODEL           |
| 95-0    | AERODYNAMICS              | 0.05   | FORCE & MOMENTS            | STABILITY & CONTROL MODEL                  |
| 96-0    | STRUCT. DYNAMICS          | 1.0    | PRESSURES: LRSI TILE       | FLAT PLATE: LRSI TILE PANEL                |
| 97-0    | AERODYNAMICS              | 0.03   | FORCE & MOMENTS            | STABILITY & CONTROL MODEL                  |
| 98-0    | STRUCT. DYNAMICS          | 1.0    | PRESSURE: HRSI TILE        | FLAT PLATE: HRSI TILE PANEL                |
| 99-0    | AERODYNAMICS              | 0.1    | PRESSURES: AIR DATA PROBES | ORBITER FOREBODY MODEL                     |
| 100-OTS | STRUCT. DYNAMICS          | 0.046  | DYNAMICS: GROUND WINDS     | LAUNCH/LAUNCH PAD SIMULATION MODEL         |
| 101-0   | -----CANCELLED, NOT BUILT |        |                            |  |
| 102-0   | -----CANCELLED, NOT BUILT |        |                            |  |
| 103-0   | -----CANCELLED, NOT BUILT |        |                            |  |
| 104-0   | AERODYNAMICS              | 0.02   | FORCE & MOMENTS            | VERIFICATION TRANSONIC HM MODEL (MOD. #89) |
| 105-0   | AERODYNAMICS              | 0.02   | FORCE & MOMENTS            | VERIFICATION S&C MODEL                     |
| 106-0   | AERODYNAMICS              | 0.02   | FORCE & MOMENTS            | VERIFICATION S&C R/C MODEL (MOD. #105)     |
| 107-0   | AERODYNAMICS              | 1.0    | PRESSURES                  | TPS TILE CAVITY FLOW FIELD MODEL           |
| 108-0   | STRUCT. DYNAMICS          | 1.0    | PRESSURES                  | ORBITER/ET TPS CAVITY MODEL                |
| 109-0   | STRUCT. DYNAMICS          | 1.0    | PRESSURES                  | ORBITER/ET DOOR TPS MODEL                  |
| 110-0   | STRUCT. DYNAMICS          | 1.0    | PRESSURES                  | ELEVON/ELEVON GAP MODEL                    |
| 111-0   | STRUCT. DYNAMICS          | 1.0    | PRESSURES                  | VERTICAL/RUDDER GAP MODEL                  |
| 112-T   | STRUCT. DYNAMICS          | 0.25   | PRESSURE                   | EXTERNAL TANK FOREBODY PROTUBERANCE MODEL  |
| 113-0   | STRUCT. DYNAMICS          | 1.0    | PRESSURES                  | VENT PORT MODEL                            |



## 10. DOCUMENTATION

Recognition of the need for an integrated, standardized system for processing, storing, and manipulating large blocks of wind tunnel data led to the development of the "System for Automated Development of Static Aerothermodynamic Criteria" in 1966 by Chrysler Corporation Space Division, New Orleans, Louisiana. Typically, raw wind tunnel data counts were automatically reduced to coefficient form at the facility, with many of the subsequent operations done predominantly by hand. Data point corrections, bias shifts, adjustments to the data for scale effects, breakdown of the data for component analysis, plots (and cross plots) for data evaluation, faired and interpolated data, final presentation plots, etc. were all done manually. Structural design related tests such as loads and heating were handled in a similar manner. However, there are usually many more data points for each test condition. In 1966, Chrysler, in support of the Saturn IB/Apollo Program, and under contract to the MSFC, designed and developed a digital computer program system which would include data file storage and retrieval operations, data computational capability, and automated plotting capability. In 1970, the original system, renamed DATAMAN (short for data management), was proposed by the MSFC as a means to document and file experimental wind tunnel data from the SSV design and development program. This proposal was accepted and the system became operational during the Phase B portion of the Space Shuttle Program. Since the beginning of Phase C/D, approximately one thousand test reports (of which 35 percent were special requests) have been issued in support of the SSV program. Each of these documents is retrievable and referenceable (abstracted in the Scientific and Technical Aerospace Reports, or STAR) and contains complete test information. However the test data is primarily in standard plots and tables, with limited analysis. This method of documenting test data is very unique. The current wind tunnel investigation for a given design results in generating, not only a large amount of data, but the data is obtained from a number of different facilities and is often provided in different nomenclature and format. The impact on the engineering analyst, with limited resources available to organize, manipulate, and plot data, is to either delay release of the data or to limit the scope of the analyses. By automating and standardizing these procedures, as was done for the SSV program, rapid output of the data in the desired reference system and format maximizes its use by the engineering community. These techniques have proven to be both an effective and economical method of documenting, as well as working with, wind tunnel test results and could be applied to any major aerospace program.

A summary of the many advantages of this system follows. The system enables the engineer to spend more time evaluating and analyzing the data by relieving the tedious job of organizing and plotting large quantities of data as a necessary prelude to analysis and evaluation. The initial output of plotted data is available in a time frame that permits rapid evaluation. Thus the engineer can incorporate any findings into subsequent wind tunnel investigations. The system permits maximum exploitation of the data by allowing a complete analysis of major and second order effects by providing the engineer with plots of all of the data, which would not normally be possible with limited manpower. The method permits extensive analysis of the data by providing automated calculation and comparative plotting of such variables as intercepts, derivatives, increments, trim conditions, control power effectiveness, etc. These are operations which must be performed for design applications of the data and

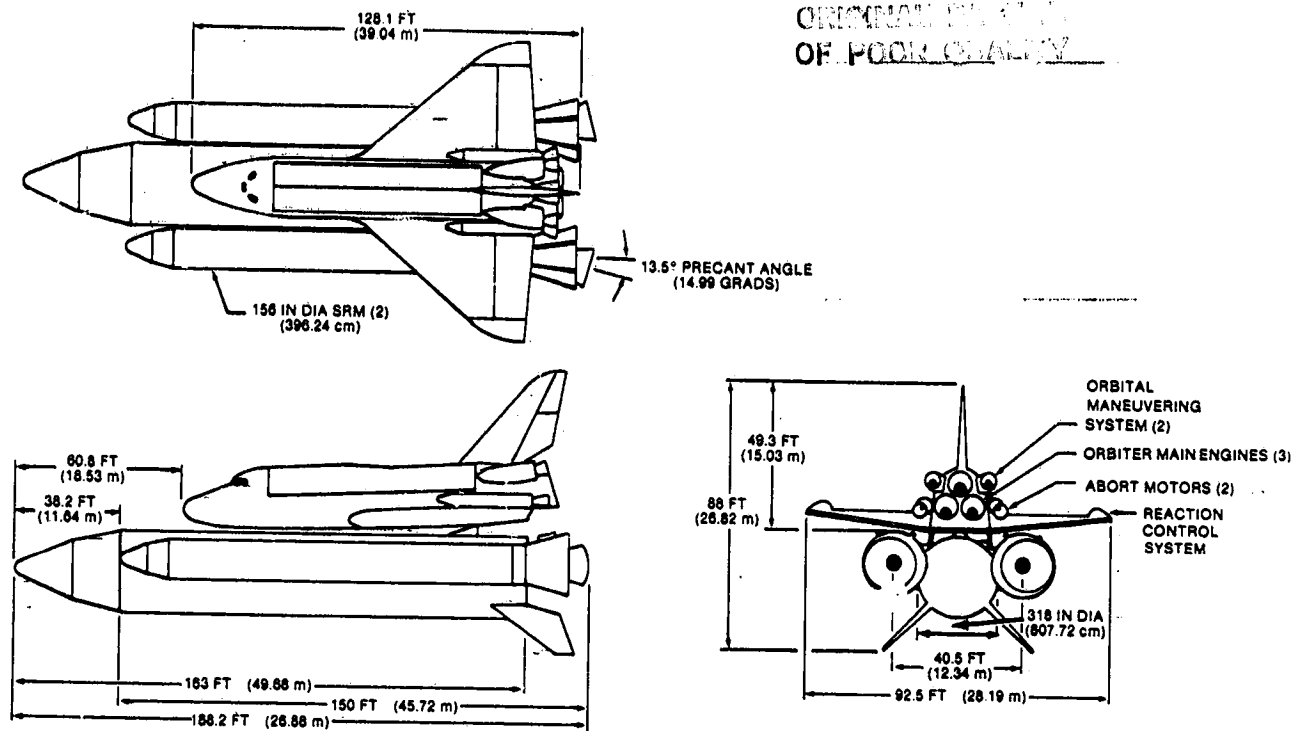
consequently are equally important to the engineer. The system facilitates comparison of data from current tests with data from prior tests by providing a data storage and retrieval system. It expedites the publication and dissemination of all the data obtained. The system provides a document containing a complete set of the data obtained in the investigation. These documents can subsequently be referenced in more formal documents and presentations. A complete listing of all test documents produced is given in appendix B. Table B1 relates the document number to the test number, test data, model reference configuration and ID, and the facility. Table B2 shows the NASA contractor report (CR) number, the test number, and the report title.

## REFERENCES

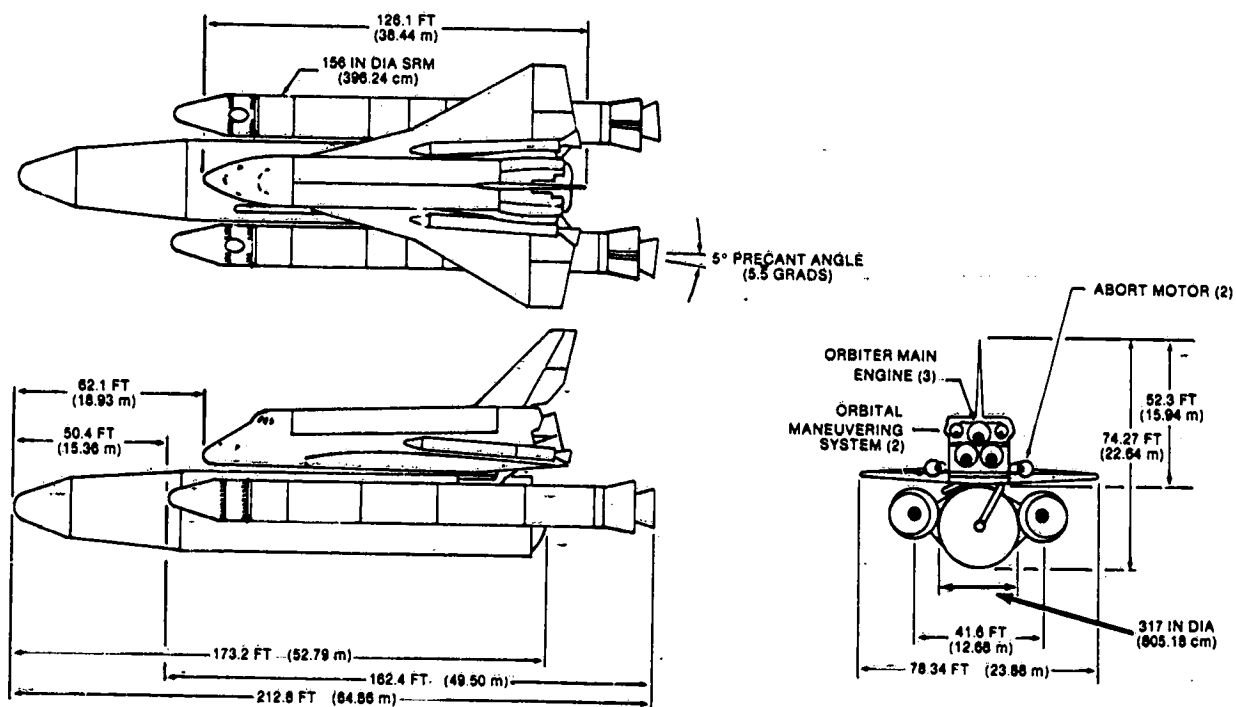
1. Whitnah, A. M., and Hillje, E. R.: Space Shuttle Wind Tunnel Testing Program, AIAA Paper No. 82-0562, March 1982.
2. Falet, Maxime A.: New Configuration Concept for Space Shuttle that Provides Suitable Characteristics for Launch, Entry, and Landing. Paper presented at AIAA 6th Annual Meeting and Technical Display, Anaheim, CA, October 20-24, 1969.
3. Hallion, Richard P.: Antecedents of the Space Shuttle. AIAA Student Journal, Spring 1980.
4. Surber, T. E. and Olsen, D. C.: Space Shuttle Orbiter Aerodynamic Development. Journal of Spacecraft and Rockets, January - February 1978.
5. Bornemann, W. E. and Surber, T. E.: Aerodynamic Design of the Space Shuttle Orbiter. Prepared for Presentation at the AGARD Fluid Dynamics Panel Symposium on High Angle of Attack Aerodynamics. October 1978.
6. Lee, Dorothy B. and Harthun, Mark H.: Aerothermodynamic Entry Environment of the Space Shuttle Orbiter. AIAA Paper No. 82-0821, June 1982.
7. Runyan, Harry L. and Morgan, Homer G.: Structural Dynamics Problems of the Space Shuttle. AIAA Paper No. 70-740, April 1970.
8. Rainey, Robert W.: Progress and Technology for Space Shuttles. AAS Paper No. 70-046, June 1970.
9. Henderson, Arthur, Jr.: Aerothermodynamic Technology for Space Shuttle - and Beyond. AIAA Paper 73-59, January 1973.
10. Love, Eugene S.: Advanced Technology and the Space Shuttle. Astronautics and Aeronautics, February 1973.
11. Hillje, Ernest R. and Nelson, Raymond L.: Postflight Analysis of the Space Shuttle Ascent Air Data System. AIAA Paper No. 81-2457, November 1981.
12. Hillje, Ernest R. and Tymms, David E.: Wind Tunnel and Flight Calibration of the Shuttle Orbiter Air Data System. AIAA Paper No. 78-792, April 1978.
13. Ware, George M.; Spencer, Bernard, Jr.; and Gentry, L. Raymond: Remotely Driven Model Control Surfaces for Efficient Wind-Tunnel Operations. AIAA Paper No. 83-0148, January 1983.
14. Aerodynamic Design Data Book (Space Shuttle Program). Volume I - Orbiter Vehicle. Doc. SD72-SH-0060-1A, North American Rockwell, October 1972.
15. Aerodynamic Design Data Book (Space Shuttle Program). 150K Light Weight Orbiter Vehicle. Doc. SD73-SH-0020, North American Rockwell, February 1973.
16. Aerodynamic Design Data Book (Space Shuttle Program). Volume I - Orbiter Vehicle. Doc. SD72-SH-0060-1C, Rockwell International, April 1973.
17. Aerodynamic Design Data Book (Space Shuttle Program). Volume I - Orbiter Vehicle. Doc. SD72-SH-0060-1D, Rockwell International, June 1973.
18. Aerodynamic Design Data Book (Space Shuttle Program). Volume I - Orbiter Vehicle. Doc. SD72-SH-0060-1E, Rockwell International, July 1973.
19. Aerodynamic Design Data Book (Space Shuttle Program). Volume I - Orbiter Vehicle. Doc. SD72-SH-0060-1F, Rockwell International, December 1973.
20. Aerodynamic Design Data Book (Space Shuttle Program). Volume I - Orbiter Vehicle. Doc. SD72-SH-0060-1G, Rockwell International, June 1974.
21. Aerodynamic Design Data Book (Space Shuttle Program). Volume I - Orbiter Vehicle. Doc. SD72-SH-0060-1H, Rockwell International, December 1974.
22. Aerodynamic Design Data Book (Space Shuttle Program). Volume I - Orbiter Vehicle. Doc. SD72-SH-0060-1I, Rockwell International, June 1975.
23. Aerodynamic Design Data Book (Space Shuttle Program). Volume I - Orbiter Vehicle. Doc. SD72-SH-0060-1J, Rockwell International, December 1975.

24. Aerodynamic Design Data Book (Space Shuttle Program). Volume IV - Orbiter Vehicle 101, Doc. SD72-SH-0060-4J, Rockwell International, October 1976.
25. Aerodynamic Design Data Book (Space Shuttle Program). Volume I - Orbiter Vehicle 102, Doc. SD72-SH-0060-1K, Rockwell International, November 1977.
26. Aerodynamic Design Data Book (Space Shuttle Program). Volume I - Orbiter Vehicle 102, Doc. SD72-SH-0060-1L, Rockwell International, October 1978.
27. Aerodynamic Design Data Book (Space Shuttle Program). Volume I - Orbiter Vehicle STS-1, Doc. SD72-SH-0060-1M, Rockwell International, November 1980.
28. Aerodynamic Design Data Book (Space Shuttle Program). Volume II - Mated Vehicle. Doc. SD72-SH-0060-2A, North American Rockwell, October 1972.
29. Aerodynamic Design Data Book (Space Shuttle Program). Volume II - Mated Vehicle. Doc. SD72-SH-0060-2B, North American Rockwell, January 1974.
30. Aerodynamic Design Data Book (Space Shuttle Program). Volume II - Mated Vehicle. Doc. SD72-SH-0060-2C, Rockwell International, April 1973.
31. Aerodynamic Design Data Book (Space Shuttle Program). Volume II - Mated Vehicle. Doc. SD72-SH-0060-2D, Rockwell International, June 1973.
32. Aerodynamic Design Data Book (Space Shuttle Program). Volume II - Mated Vehicle. Doc. SD72-SH-0060-2E, Rockwell International, August 1973.
33. Aerodynamic Design Data Book (Space Shuttle Program). Volume II - Mated Vehicle. Doc. SD72-SH-0060-2F, Rockwell International, January 1974.
34. Aerodynamic Design Data Book (Space Shuttle Program). Volume II - Mated Vehicle. Doc. SD72-SH-0060-2G, Rockwell International, June 1974.
35. Aerodynamic Design Data Book (Space Shuttle Program). Volume II - Mated Vehicle. Doc. SD72-SH-0060-2H, Rockwell International, February 1975.
36. Aerodynamic Design Data Book (Space Shuttle Program). Volume II - Mated Vehicle. Doc. SD72-SH-0060-2I, Rockwell International, December 1976.
37. Aerodynamic Design Data Book (Space Shuttle Program). Volume II - Mated Vehicle. Doc. SD72-SH-0060-2J, Rockwell International, August 1978.
38. Aerodynamic Design Data Book (Space Shuttle Program). Volume II - Mated Vehicle. Doc. SD72-SH-0060-2K, Rockwell International, July 1980.
39. Aerodynamic Design Data Book (Space Shuttle Program). Volume II - Mated Vehicle. Doc. SD72-SH-0060-2L, Rockwell International, June 1981.

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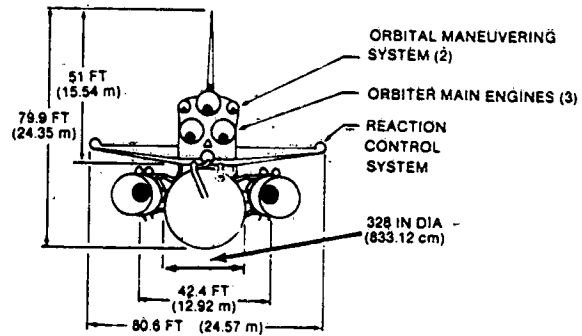
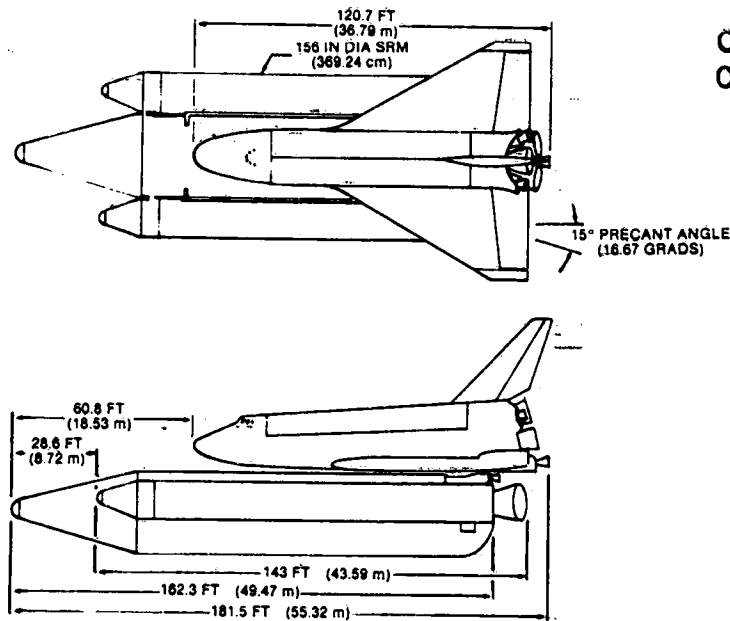
(a) GRUMMAN AIRCRAFT COMPANY CONFIGURATION



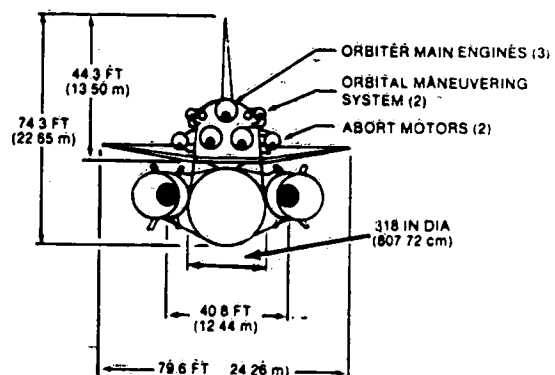
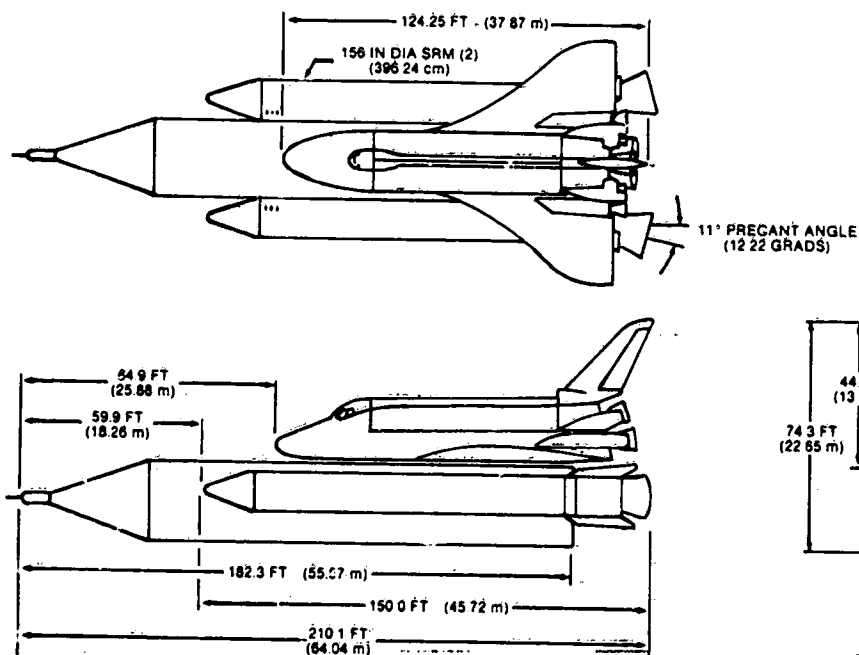
(b) LOCKHEED MISSILE AND SPACE COMPANY

Figure 2.1. - Space Shuttle Phase B Double Prime final configurations.

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(c) MCDONNELL DOUGLAS CONFIGURATION



(d) NORTH AMERICAN/ROCKWELL CONFIGURATION

Figure 2.1. - Concluded

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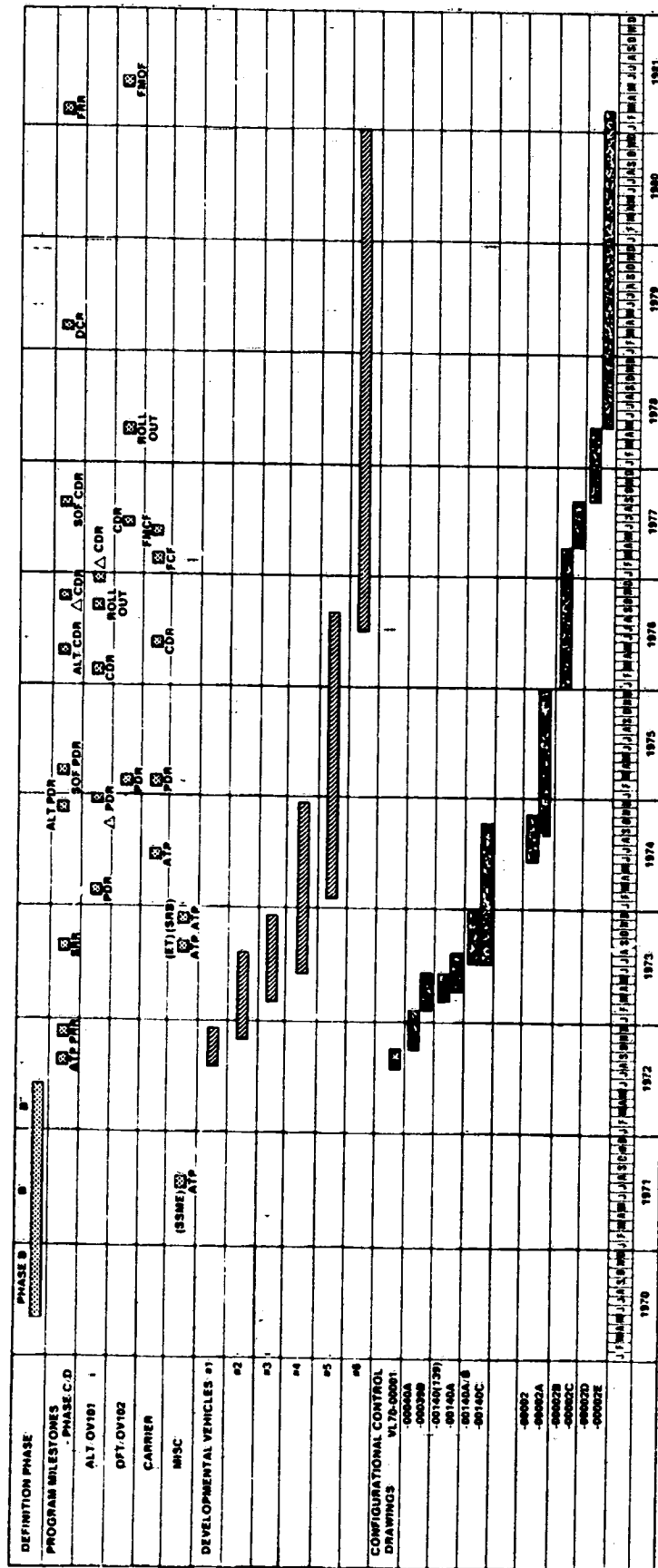
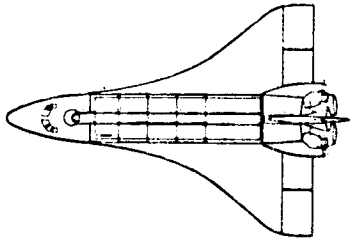
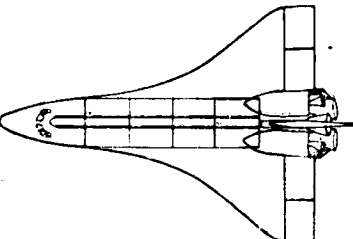
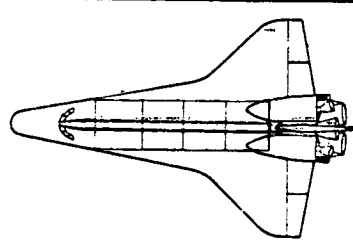
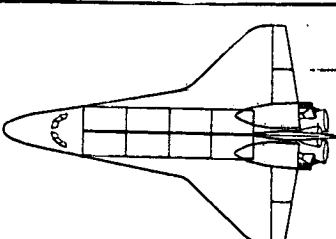
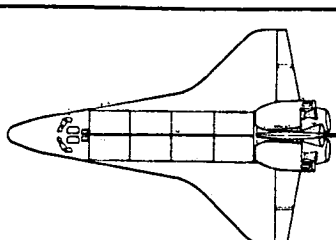




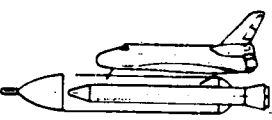
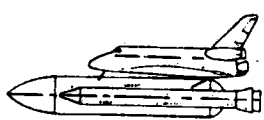
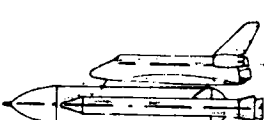
Figure 3.1. - Space Shuttle configuration evolution timeline.

| CONFIGURATION DESIGNATION                    | ATP  | PRR  | 2A   | 3, 4   | 5, 6   |
|--|--|--|--|--|--|
| CC CONFIGURATION CONTROL DRAWING NUMBER      | VL70 - 000001  | VL70 - 000040A   | VL70 - 000089B   | VL70 - 000140, 140A/B  | VL70 - 000140C, VC70 - 000002  |
| WING DESIGN                                  | 50° BLENDED DELTA  | 50° BLENDED DATA   | 45°/79° DOUBLE DELTA   | 45°/81° DOUBLE DELTA   | 45°/81° DOUBLE DELTA   |
| WING AREA, FT <sup>2</sup> (m <sup>2</sup> ) | 3220 (299.14)  | 3220 (299.14)  | 2690 (249.90)  | 2690 (249.90)  | 2690 (249.90)  |
| WING SPAN, FT (m)                            | 84.0 (25.60)   | 84.0 (25.60)   | 78.1 (23.80)   | 78.1 (23.80)   | 78.1 (23.80)   |
| OVERALL LENGTH, FT (m)                       | 125.8 (38.34)  | 125.8 (38.34)  | 125.2 (38.16)  | 122.8 (37.43)  | 122.2 (37.25)  |
| PLAN VIEW                                    |  |  |  |  |  |
|  | 170,000 (77,110)   | 170,000 (77,110)   | 150,000 (68,039)   | 150,000 (68,039)   | 150,000 (68,039)   |
|  | 40,000 (18,144)  | 40,000 (18,144)  | 25,000 (11,340)  | 32,000 (14,515)  | 32,000 (14,515)  |
|  | 65.0 - 68.0  | 65.0 - 68.0  | 66.0 - 68.0  | 65.0 - 67.5  | 65.0 - 67.5  |
| DRY WEIGHT, LB (kg)                          |  |  |  |  |  |
| LANDING PAYLOAD, LB (kg)                     |  |  |  |  |  |
| CG RANGE (% REFERENCE LENGTH)                |  |  |  |  |  |

(a) Orbiter Vehicle.

Figure 3.2. - Major configuration evolution definitions.

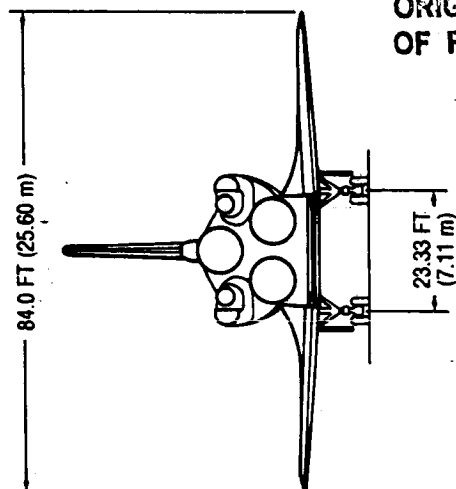
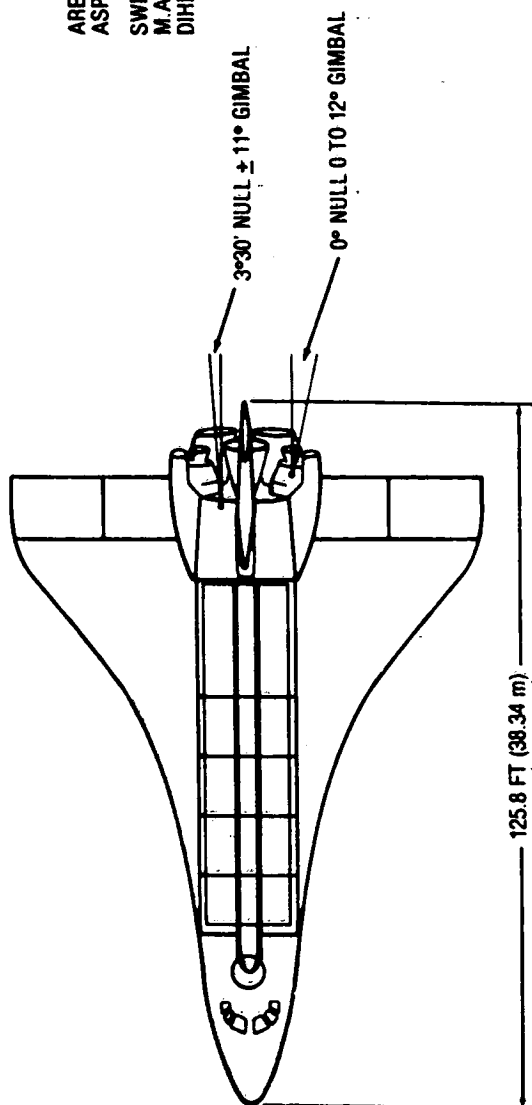


| CONFIGURATION DESIGNATION                                 | ATP  | PRR   | VEH. 2A  | VEH. 3,4   | VEH. 5,6   |
|---|--|---|--|--|--|
| CONFIGURATION CONTROL DRAWING NUMBER                      | VL72 - 000001  | VL72 - 000030   | VL72 - 000061A   | VL72 - 000088A, 88B  | VL72 - 000143D,<br>VC72 - 000002C  |
| OVERALL LENGTH, FT (m)                                    | 205.7 (62.70)  | 214.3 (65.32)   | 192.3 (58.61)  | 181.3 (55.26)  | 183.6 (55.96)  |
| ET LENGTH, FT (m)   | 182.0 (55.47)  | 189.8 (57.85)   | 165.8 (50.54)  | 155.4 (47.37)  | 153.7 (46.85)  |
| ET DIAMETER, IN (cm)                                      | 318.0 (807.7)  | 304 (772.2)   | 324 (823.0)  | 324 (823.0)  | 331.0 (840.7)  |
| ET NOSE SHAPE   | 30° BLUNTED CONE   | OGIVE (568" R)  | OGIVE (605" R)   | OGIVE (600" R)   | OGIVE (612" R)   |
| ET NOSE TIP LENGTH, FT (m)                                | 10.3 (3.15)  | 10.33 (3.15)  | 11.58 (3.53)   | NONE   | 1.57 (0.48) SPIKE  |
| SRB LENGTH, FT (m)  | 184.8 (56.33)  | 175.1 (53.37)   | 145.1 (44.23)  | 145.1 (44.23)  | 149.1 (45.45)  |
| SRB DIAMETER, IN (cm)                                     | 156 (396.2)  | 162 (411.5)   | 142.3 (361.4)  | 142.3 (361.4)  | 146.0 (370.8)  |
| SRB DISTANCE AFT OF ET TIP, FT (m)                        | 17.5 (5.33)  | 39.3 (11.98)  | 47.3 (14.42)   | 36.2 (11.03)   | 34.5 (10.52)   |
| ORBITER DISTANCE AFT OF ET TIP, FT (m)                    | 80.3 (24.48)   | 88.6 (27.01)  | 80.8 (24.63)   | 56.7 (17.28)   | 53.9 (16.43)   |
| PROFILE VIEW  |  |  |  |  |  |
| SRB GIMBAL SETTING, DEGREES                               | 11° YAW FIXED  | 3.5° YAW ± 5°   | 0° ± 5°  | 0° ± 5°  | 0° ± 8°  |
| ET PROPELLANT, THOUSAND POUNDS<br>(THOUSAND kg)           | 1697 (769.7)   | 1650 (748.4)  | 1550 (703.1)   | 1549 (702.6)   | 1552 (704.0)   |
| BOOSTER LIFT OFF WEIGHT, THOUSAND POUNDS<br>(THOUSAND kg) | 3252 (1475.1)  | 3276 (1486.0)   | 2259 (1024.7)  | 2327 (1055.5)  | 2327 (1055.5)  |
| GROSS LIFT OFF WEIGHT, THOUSAND POUNDS<br>(THOUSAND kg)   | 5411 (2454.4)  | 5261 (2386.3)   | 4116 (1867.0)  | 4188 (1893.6)  | 4197 (1903.7)  |

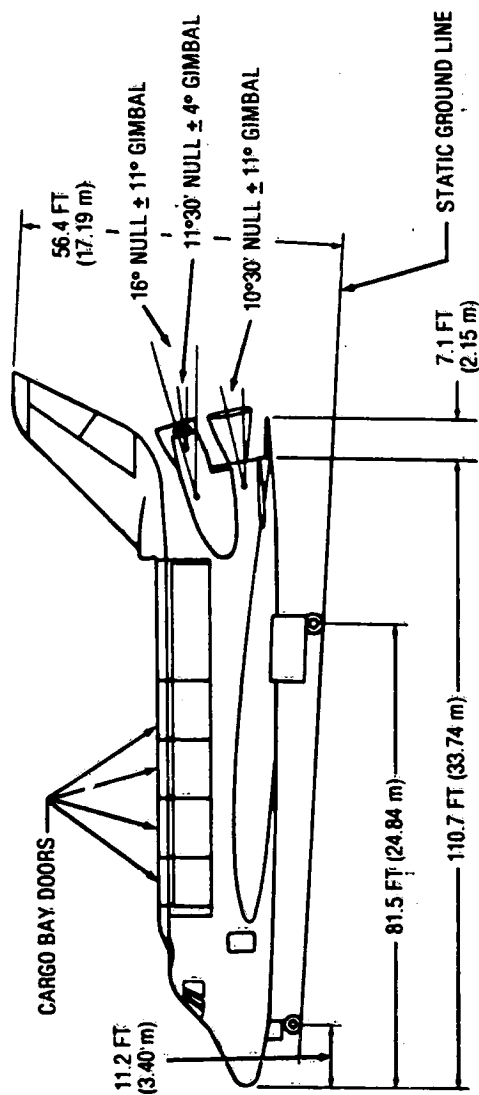
(b) Integrated Vehicle.

Figure 3.2. - Concluded.

| AREA<br>ASPECT RATIO                          | WING                   | VERTICAL STAB.                              |
|---|------------------------|---|
| 3220 FT <sup>2</sup> (299.14 m <sup>2</sup> ) | 2.19                   | 435 FT <sup>2</sup> (40.41 m <sup>2</sup> ) |
| SWEEP (L.E.)                                  | 50°                    | 1.675                                       |
| M.A.C.  | 525.5 IN. (1344.77 cm) | 45°   |
| DIHEDRAL (T.E.)                               | 3°30'                  | 205 IN. (520.70 m)                          |
|   |                        | NA  |



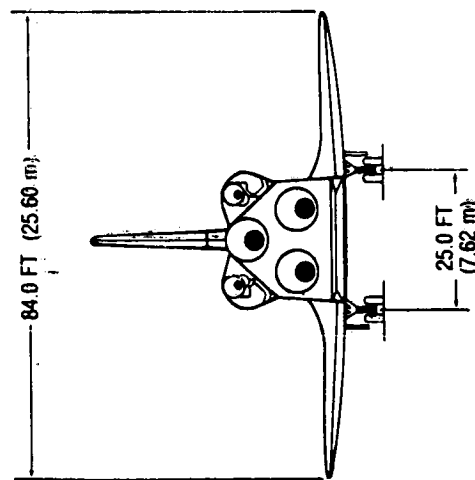
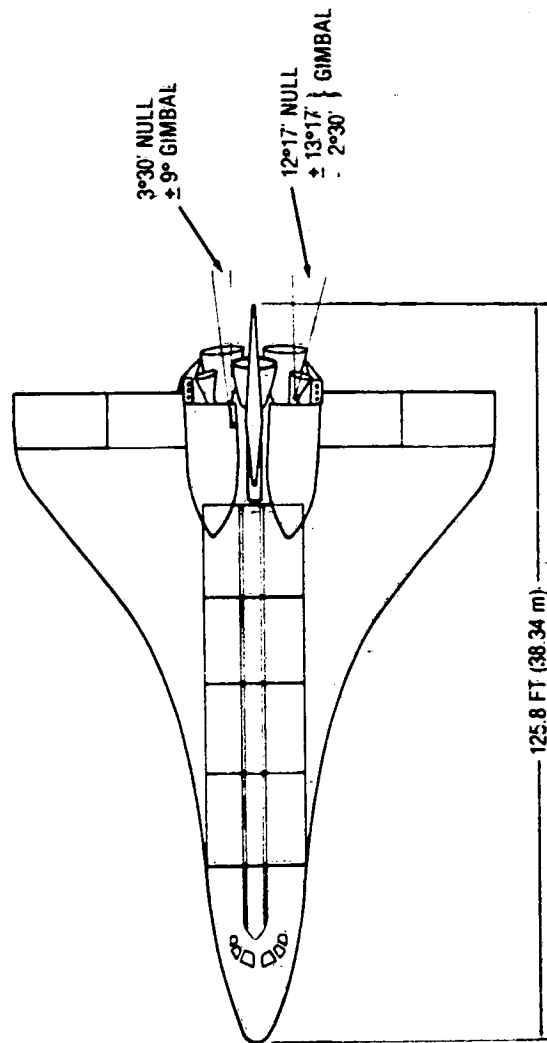
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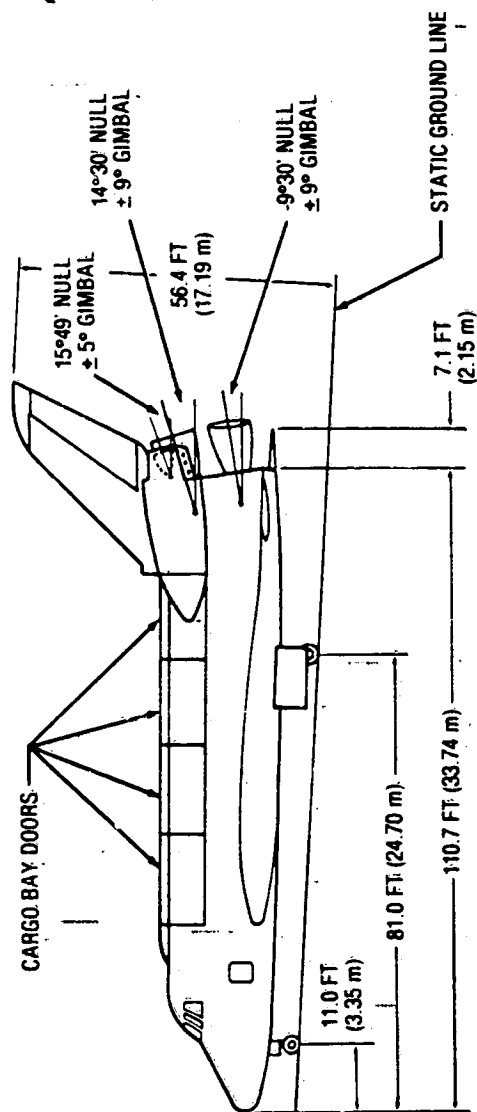
(a) ATP configuration.

Figure 3.3. - Orbiter Vehicle dimensions; configuration evolution.

|                 | WING  | VERTICAL STAB                               |
|-----------------|---|---|
| AREA            | 3220 FT <sup>2</sup> (299.14 m <sup>2</sup> ) | 435 FT <sup>2</sup> (40.41 m <sup>2</sup> ) |
| ASPECT RATIO    | 2.19  | 1.68  |
| SWEEP (L.E.)    | 50°   | 45°   |
| M.A.C.          | 525.5 IN (1344.77 cm)                         | 205.0 IN (520.70 cm)                        |
| DIHEDRAL (T.E.) | 3°30'   | NA  |



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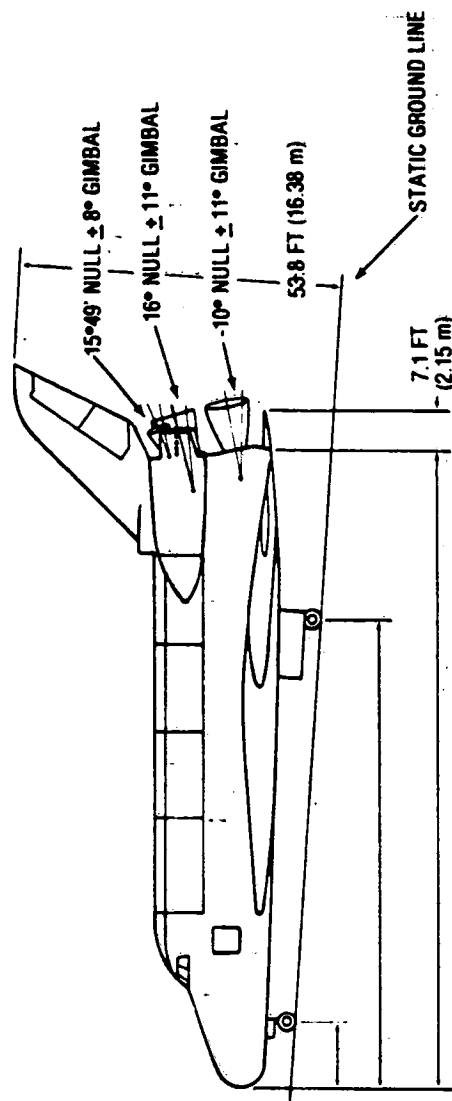
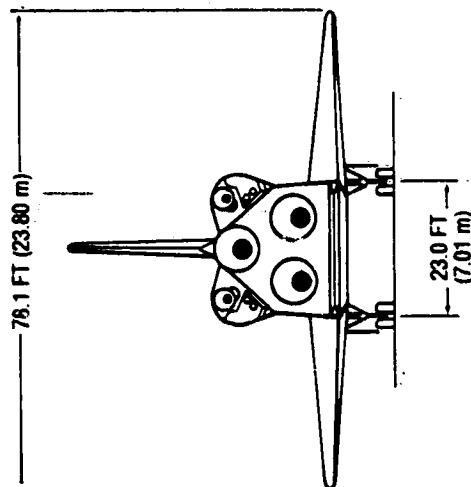
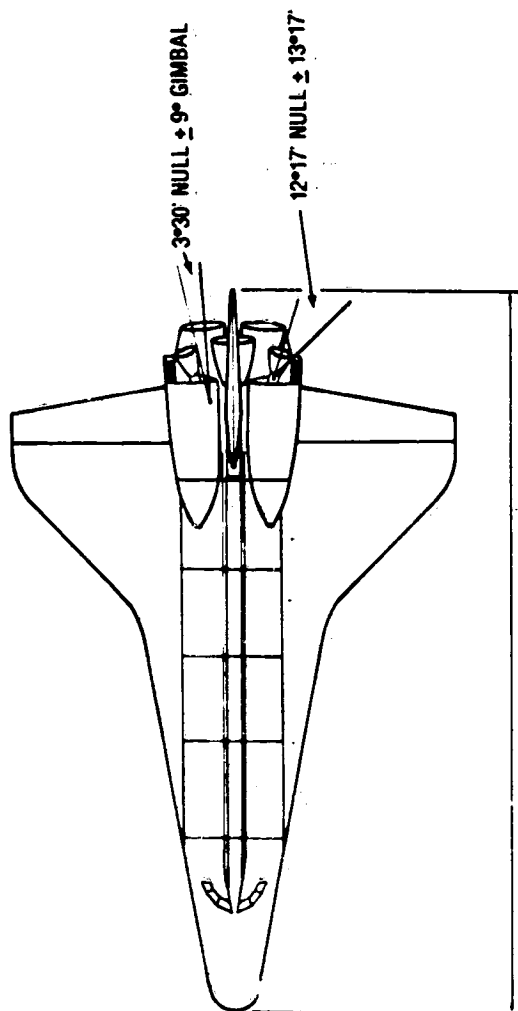
(b) PRR configuration.

Figure 3.3. - Continued.

VERTICAL STAB.

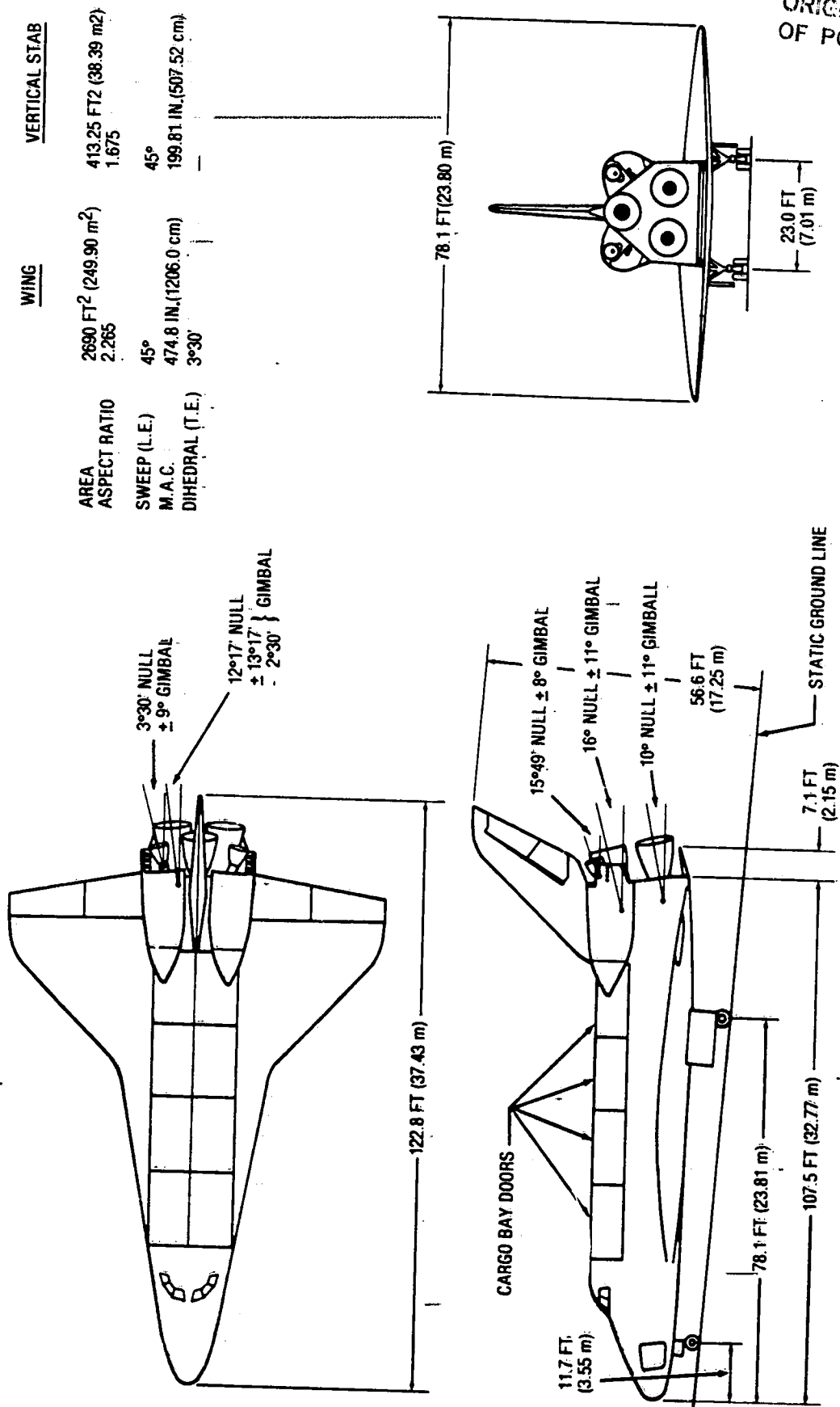
WING

|                 |   |  |
|-----------------|---|--|
| AREA            | 2690 FT <sup>2</sup> (249.90 m <sup>2</sup> ) | 413.25 FT <sup>2</sup> (38.39 m <sup>2</sup> ) |
| ASPECT RATIO    | 2.265   | 1.675  |
| SWEEP (I.E.)    | 45°   | 45°  |
| M.A.C.          | 474.8 IN. (1206.0 cm)                         | 199.81 IN. (507.52 cm)                         |
| DIHEDRAL (T.E.) | 3°30'   |  |



(c) Vehicle 2A.

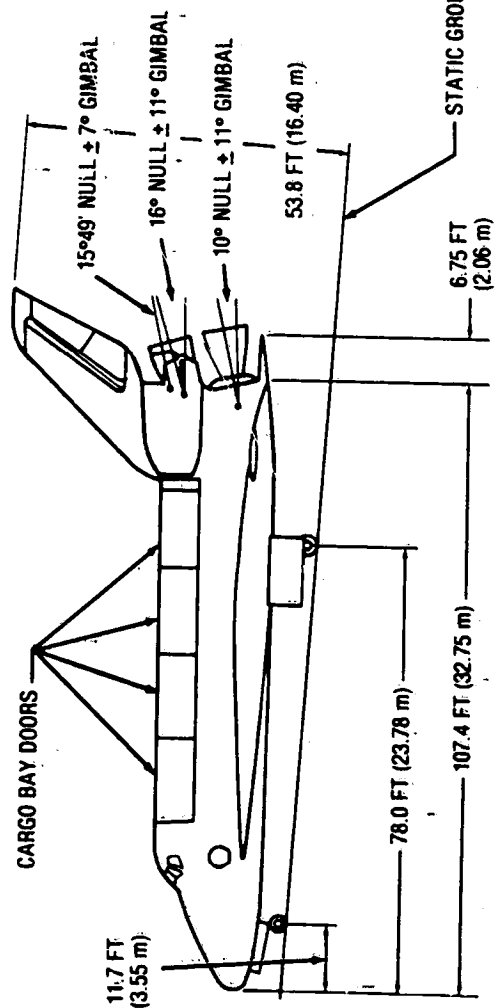
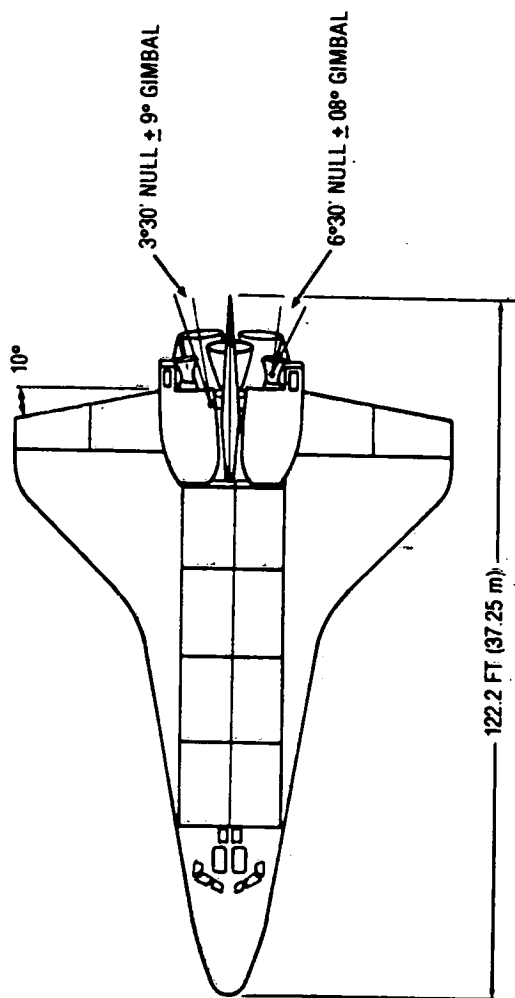
Figure 3.3. - Continued.



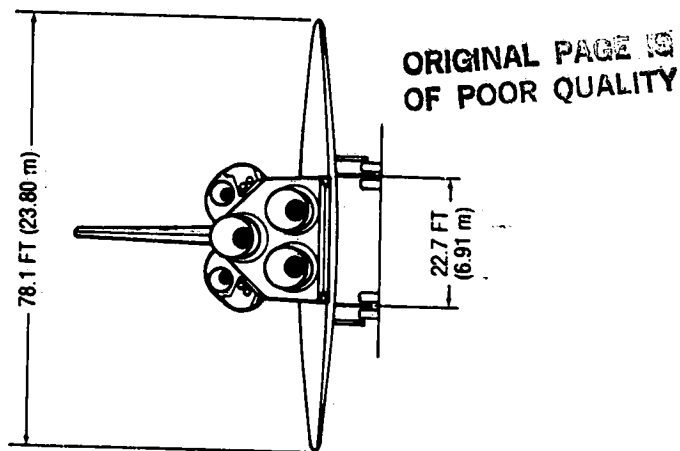
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(d) Vehicles 3, 4.

Figure 3.3. - Continued.



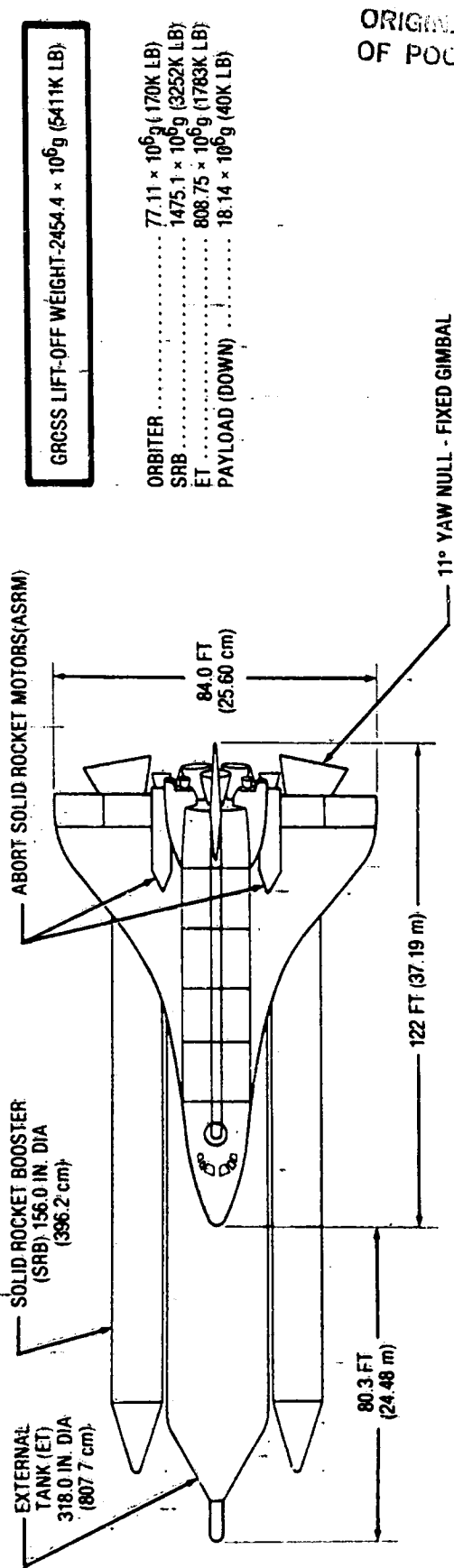
|                 | WING  | VERTICAL STAB                                  |
|-----------------|---|--|
| AREA            | 2690 FT <sup>2</sup> (249.90 m <sup>2</sup> ) | 413.25 FT <sup>2</sup> (38.39 m <sup>2</sup> ) |
| ASPECT RATIO    | 2.265   | 1.675  |
| SWEEP (L.E.)    | 45°   | 45°  |
| M.A.C.          | 474.81 IN. (1206.0 cm)                        | 199.81 IN. (507.52 cm)                         |
| DIHEDRAL (T.E.) | 3°30'   |  |



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(e) Vehicles 5, 6.

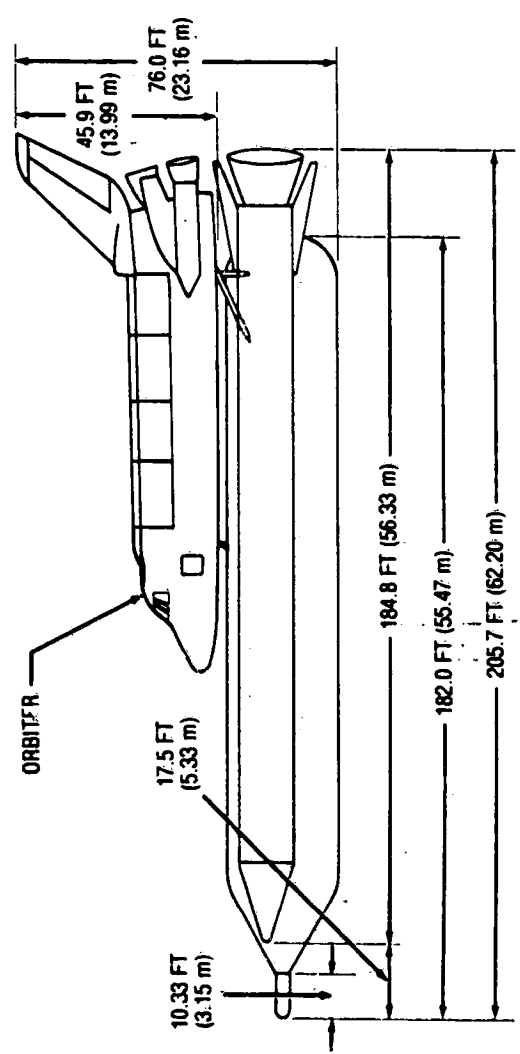
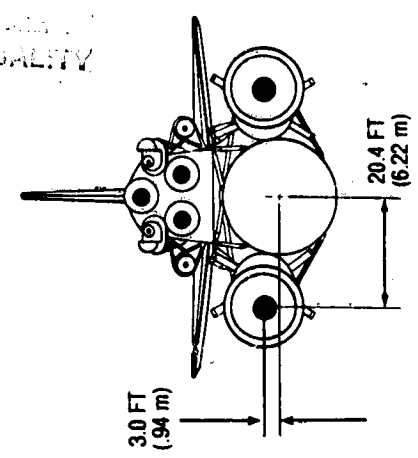
Figure 3.3. - Concluded.



GROSS LIFT-OFF WEIGHT - 2454.4 × 10<sup>6</sup>g (5411K LB)

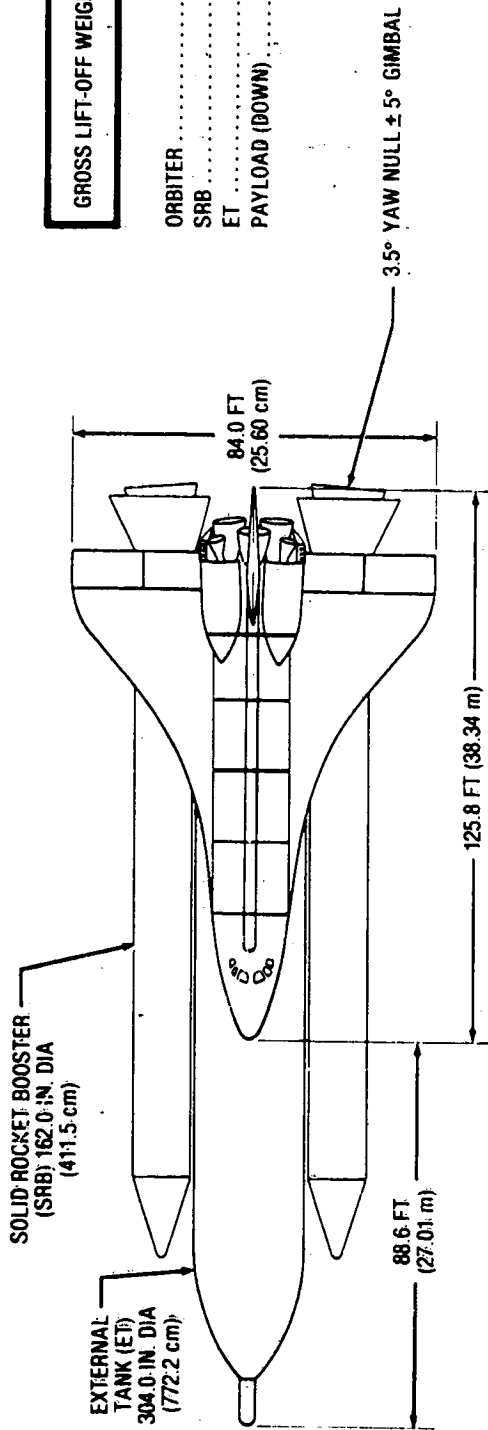
ORBITER ..... 77.11 × 10<sup>6</sup>g (170K LB)  
 SRB ..... 1475.1 × 10<sup>6</sup>g (3252K LB)  
 ET ..... 808.75 × 10<sup>6</sup>g (1783K LB)  
 PAYLOAD (DOWN) ..... 18.14 × 10<sup>6</sup>g (40K LB)

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(a) ATP configuration.

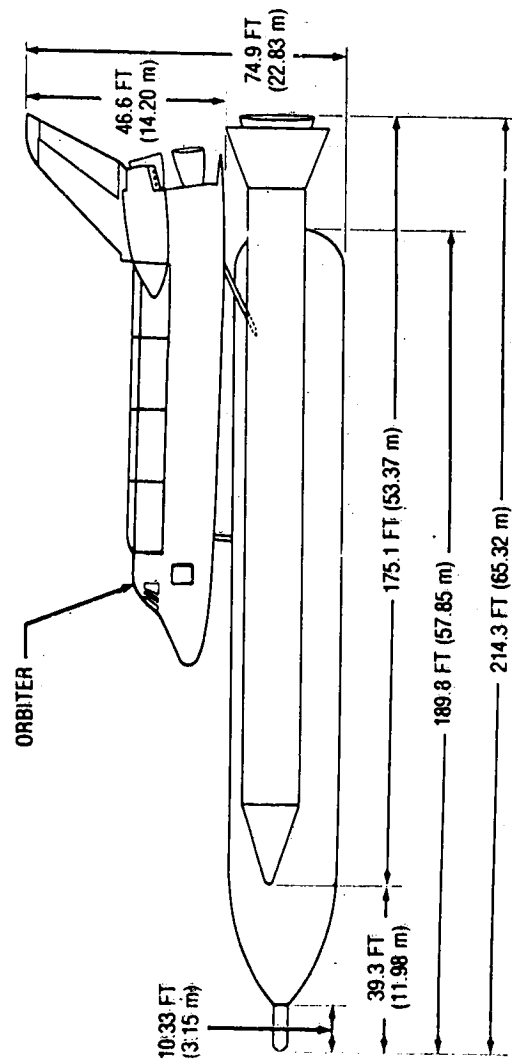
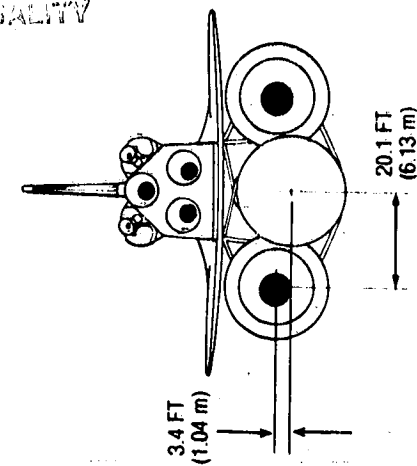
Figure 3.4. - Integrated Vehicle dimensions; configuration evolution.



GROSS LIFT-OFF WEIGHT-2386.3 × 10<sup>6</sup>g (5261K LB)

ORBITER ..... 77.11 × 10<sup>6</sup>g (170 K LB)  
 SRB ..... 1486.0 × 10<sup>6</sup>g (3276K LB)  
 ET ..... 785.62 × 10<sup>6</sup>g (1732K LB)  
 PAYLOAD (DOWN) ..... 18.14 × 10<sup>6</sup>g (40K LB)

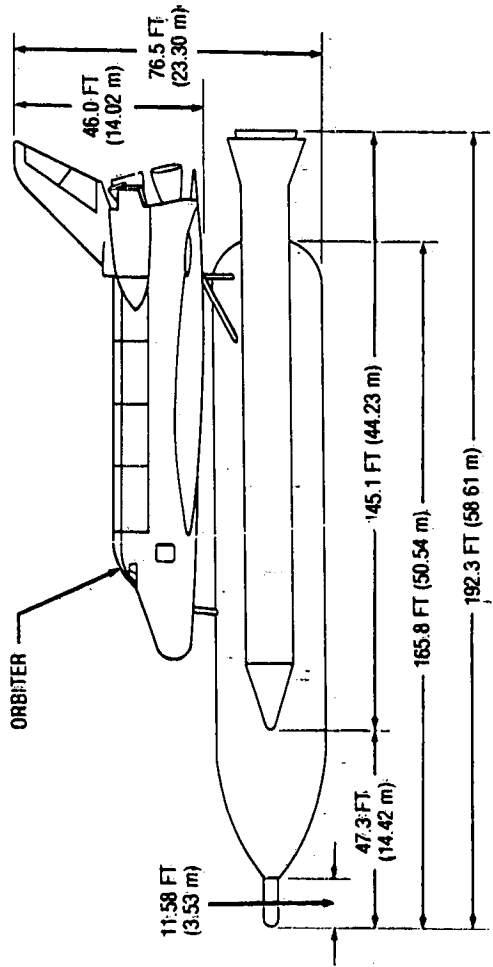
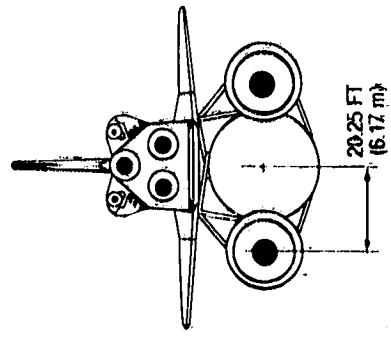
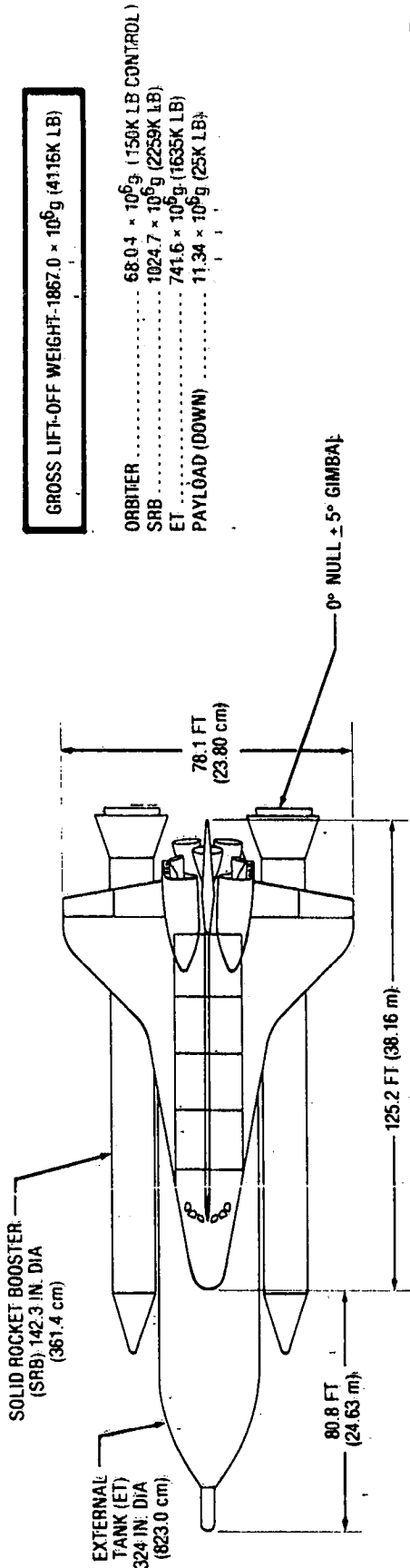
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(b) PRR configuration.

Figure 3.4. - Continued.

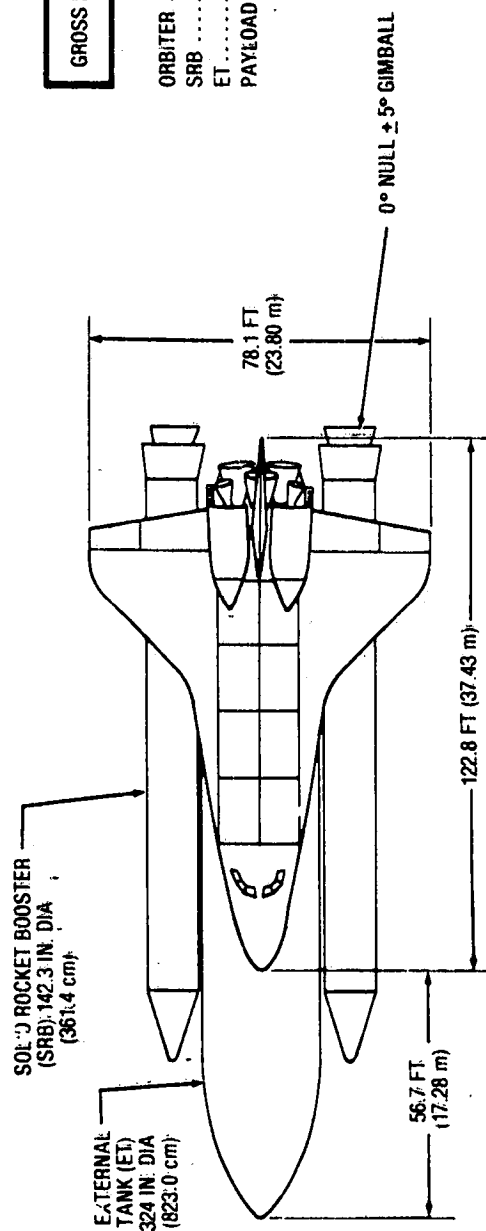




(c) Vehicle 2A.

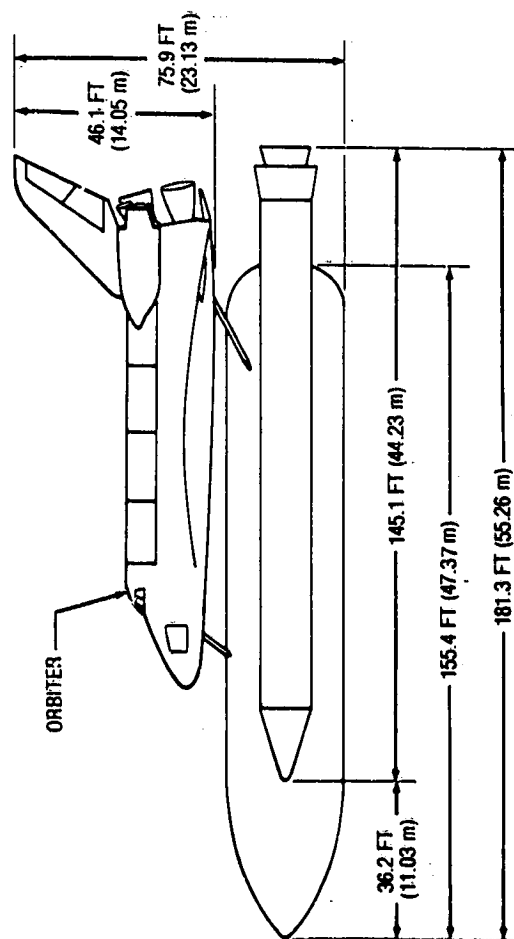
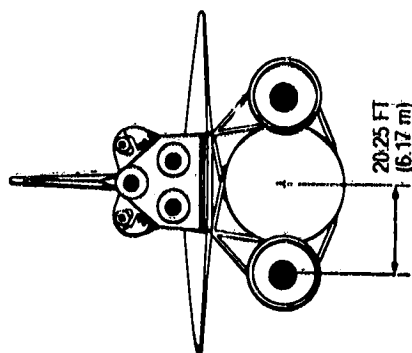
Figure 3.4. - Continued.

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GROSS LIFT-OFF WEIGHT-1904.6 × 10<sup>6</sup>g (4199K LB)

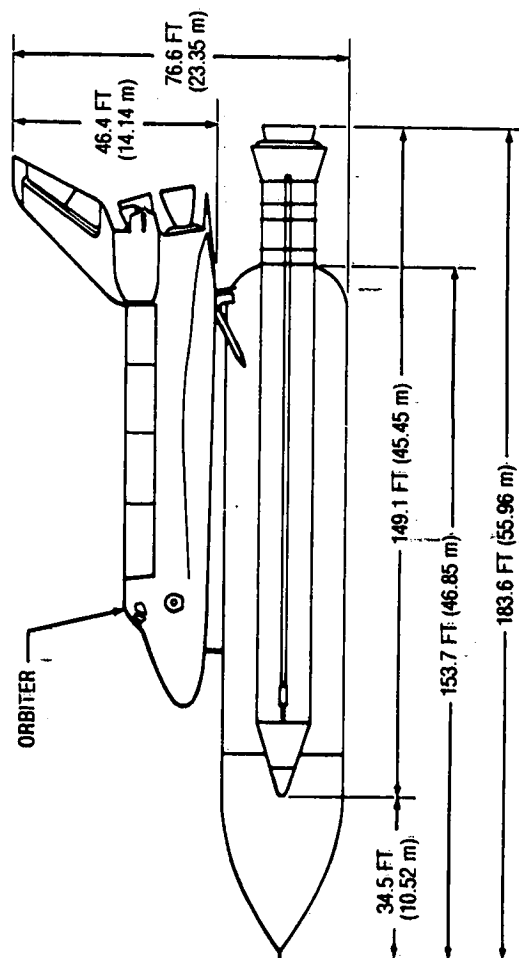
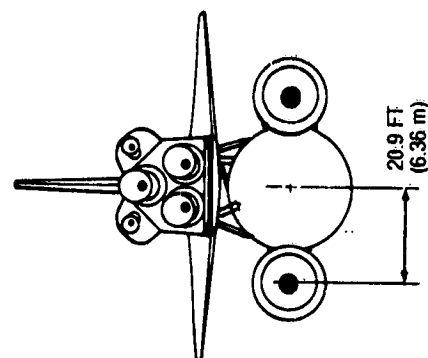
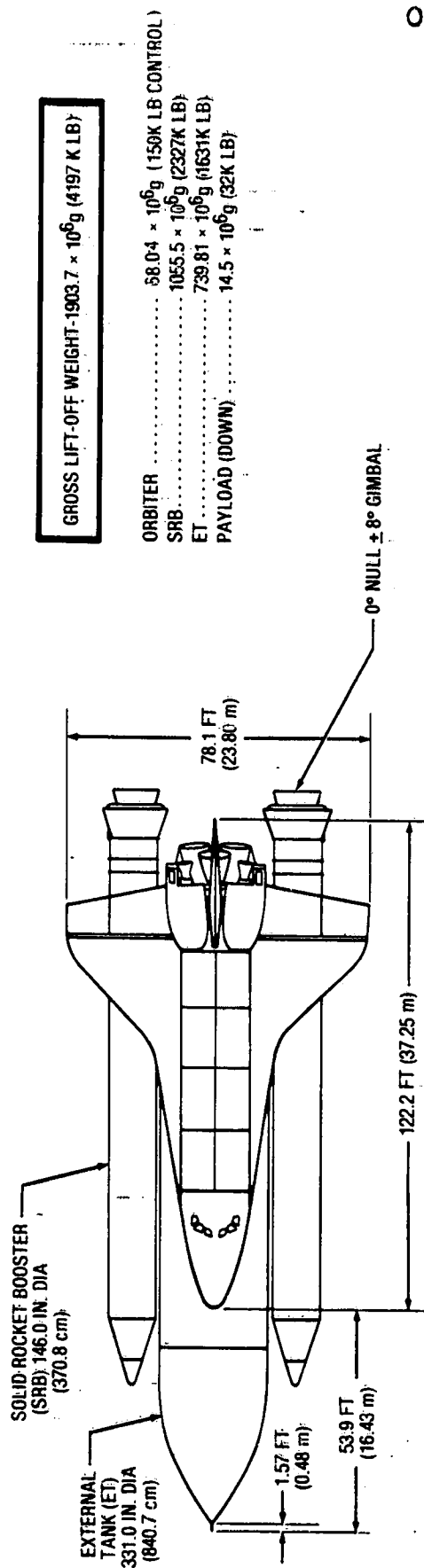
ORBITER ..... 68.04 × 10<sup>6</sup>g (150K LB CONTROL)  
 SRB ..... 1055.5 × 10<sup>6</sup>g (2327K LB)  
 ET ..... 738.4 × 10<sup>6</sup>g (1628K LB)  
 PAYLOAD (DOWN) ..... 14.5 × 10<sup>6</sup>g (32K LB)



(d) Vehicles 3, 4.

Figure 3.4. - Continued.

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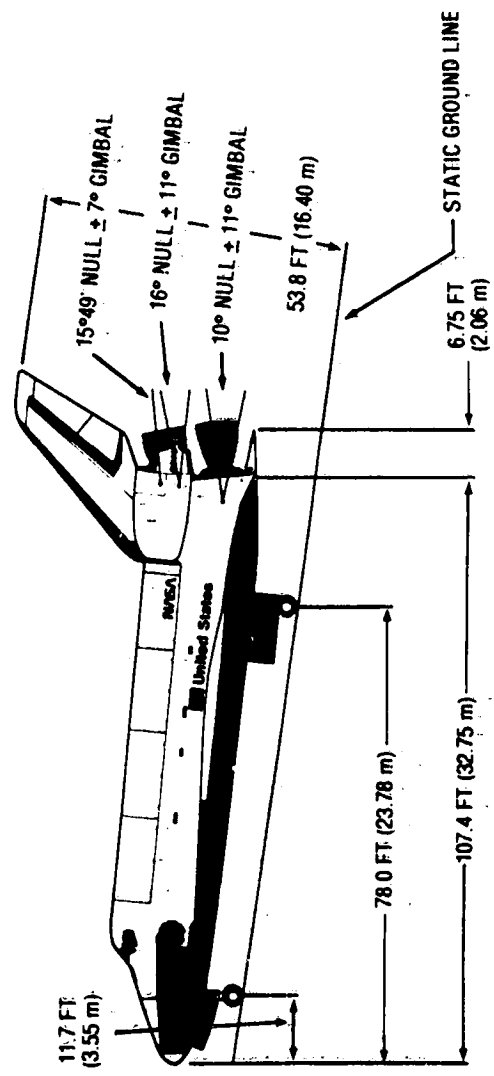
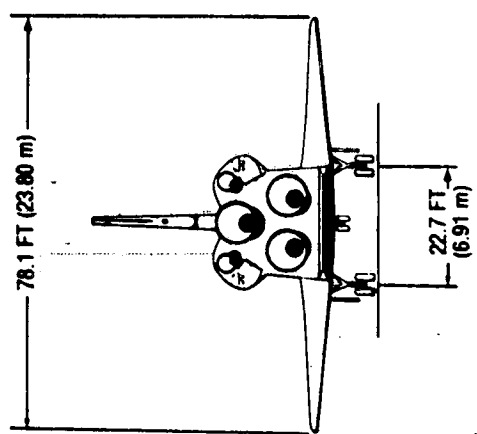
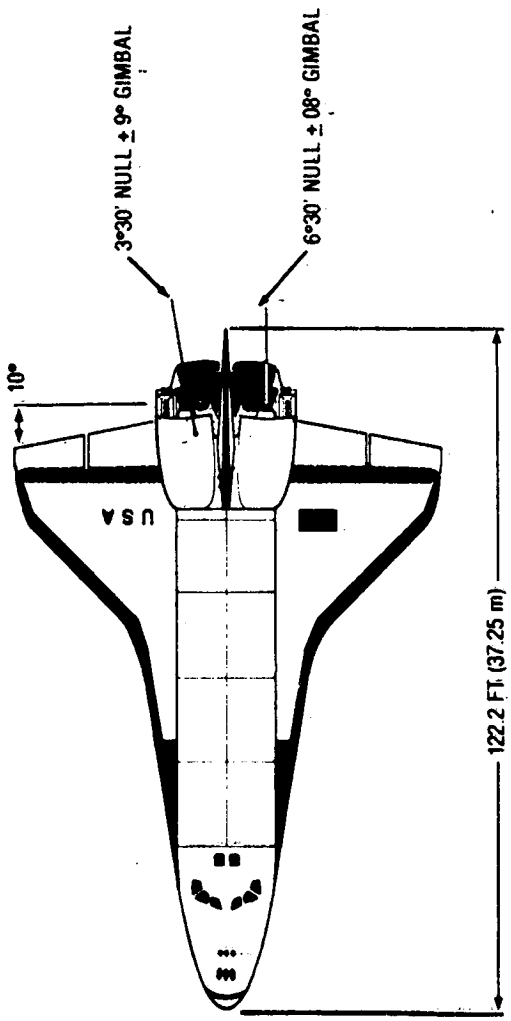


(e) Vehicles 5, 6.

Figure 3.4. - Concluded.

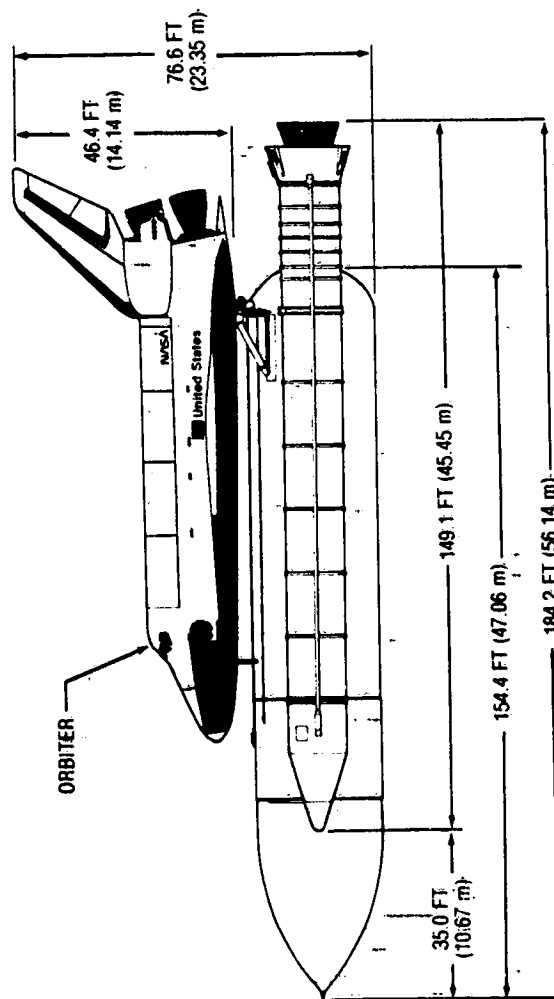
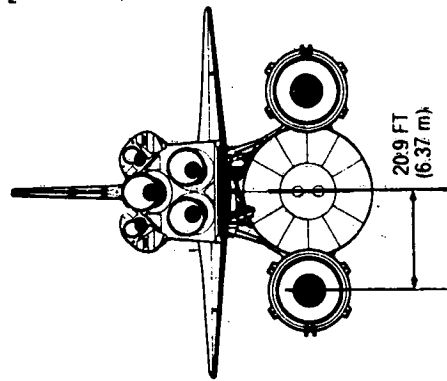
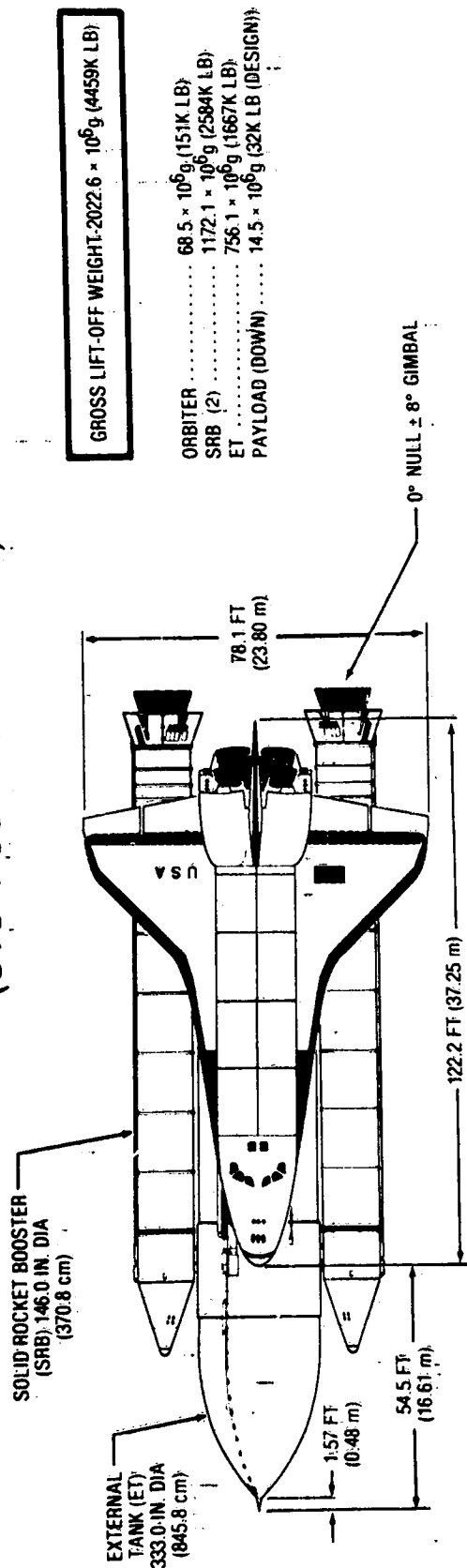
|                 | WING  | VERTICAL STAB                                  |
|-----------------|---|--|
| AREA            | 2690 FT <sup>2</sup> (249.90 m <sup>2</sup> ) | 413.25 FT <sup>2</sup> (38.39 m <sup>2</sup> ) |
| ASPECT RATIO    | 2.265   | 1.675  |
| SWEEP (L.E.)    | 45°   | 45°  |
| M.A.C.          | 474.81 IN. (1206.0 cm)                        | 199.81 IN. (507.52 cm)                         |
| DIHEDRAL (T.E.) | 3°30'   | —  |

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(a) Orbiter Vehicle OV-102.  
Figure 3.5. - STS-1 mission configurations.

# SPACE SHUTTLE INTEGRATED VEHICLE (STS-1 CONFIGURATION)



(b) Integrated Vehicle.

Figure 3.5, - Concluded.

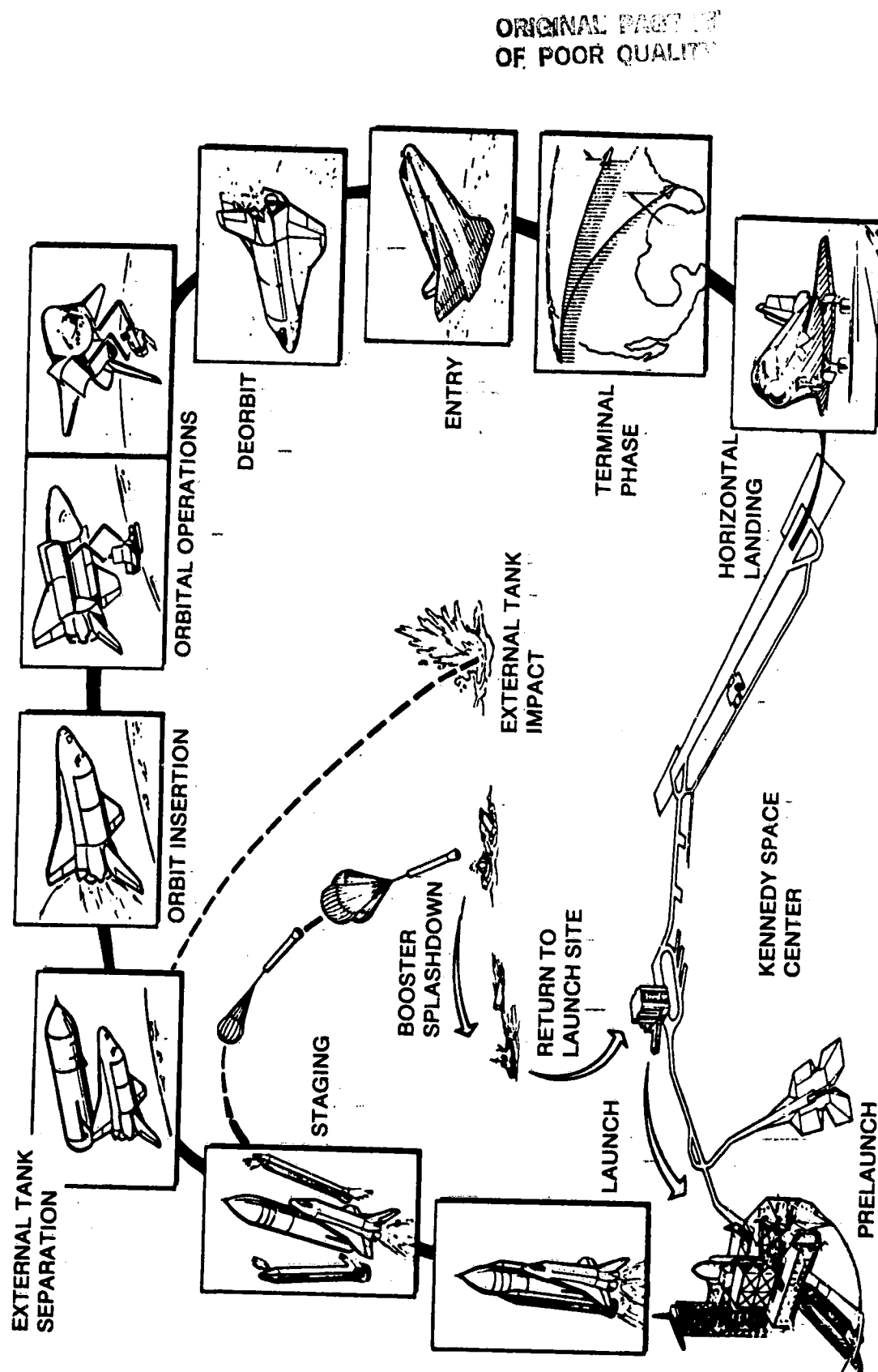
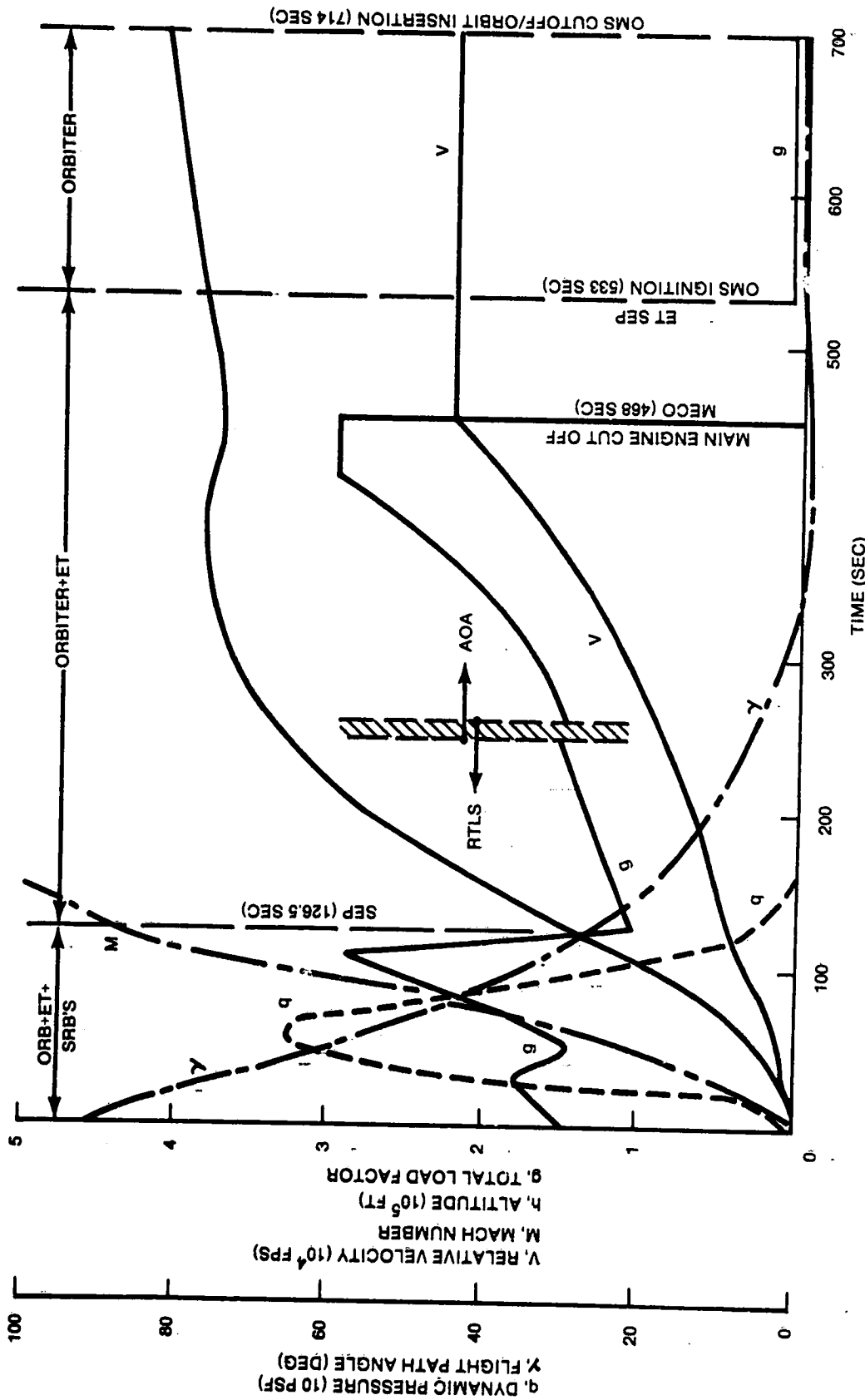


Figure 4.1. - Space Shuttle nominal mission phases.

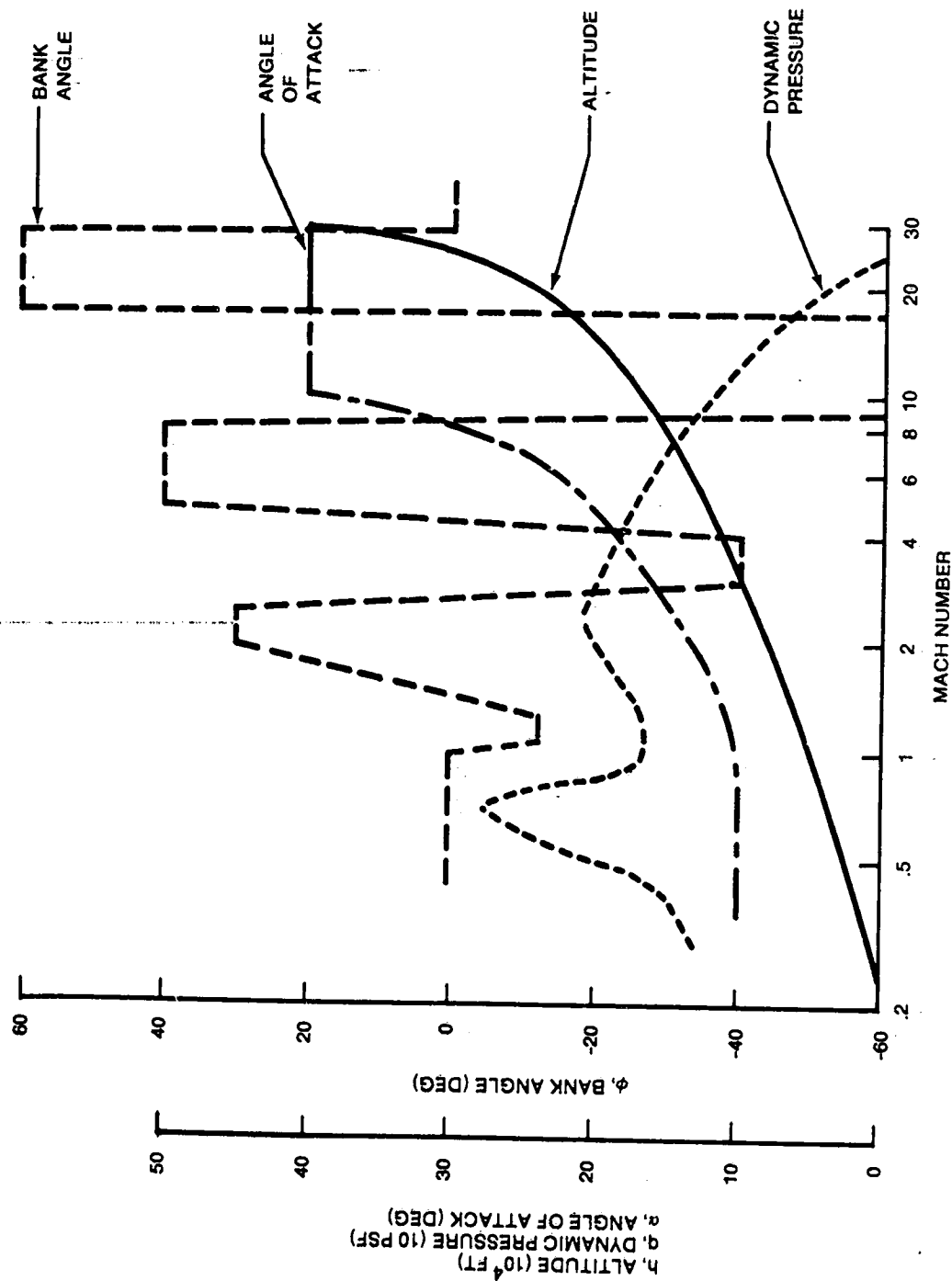


THIS CHART ILLUSTRATES NOMINAL TRAJECTORY PERFORMANCE. ALSO SHOWN ARE DECISION POINTS FOR RETURN TO LAUNCH SITE (RTLS), ABORT ONCE AROUND (AOA), AND ORBITAL INSERTION ABORTS.

(a) Ascent.

Figure 4.2. - Nominal trajectory characteristics.

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(b) Entry.

Figure 4.2. - Concluded



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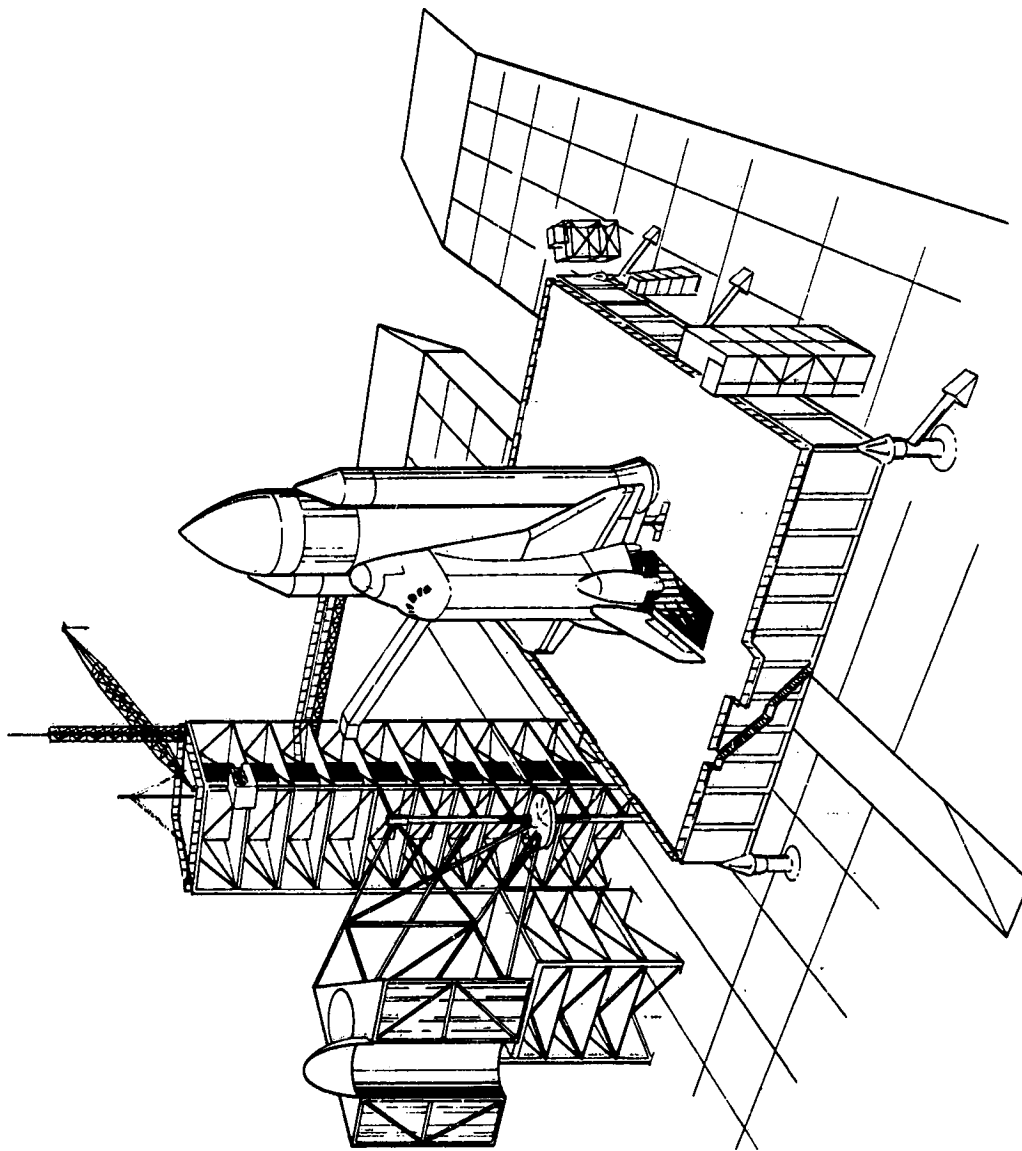


Figure 4.3. - Space Shuttle launch pad configuration.

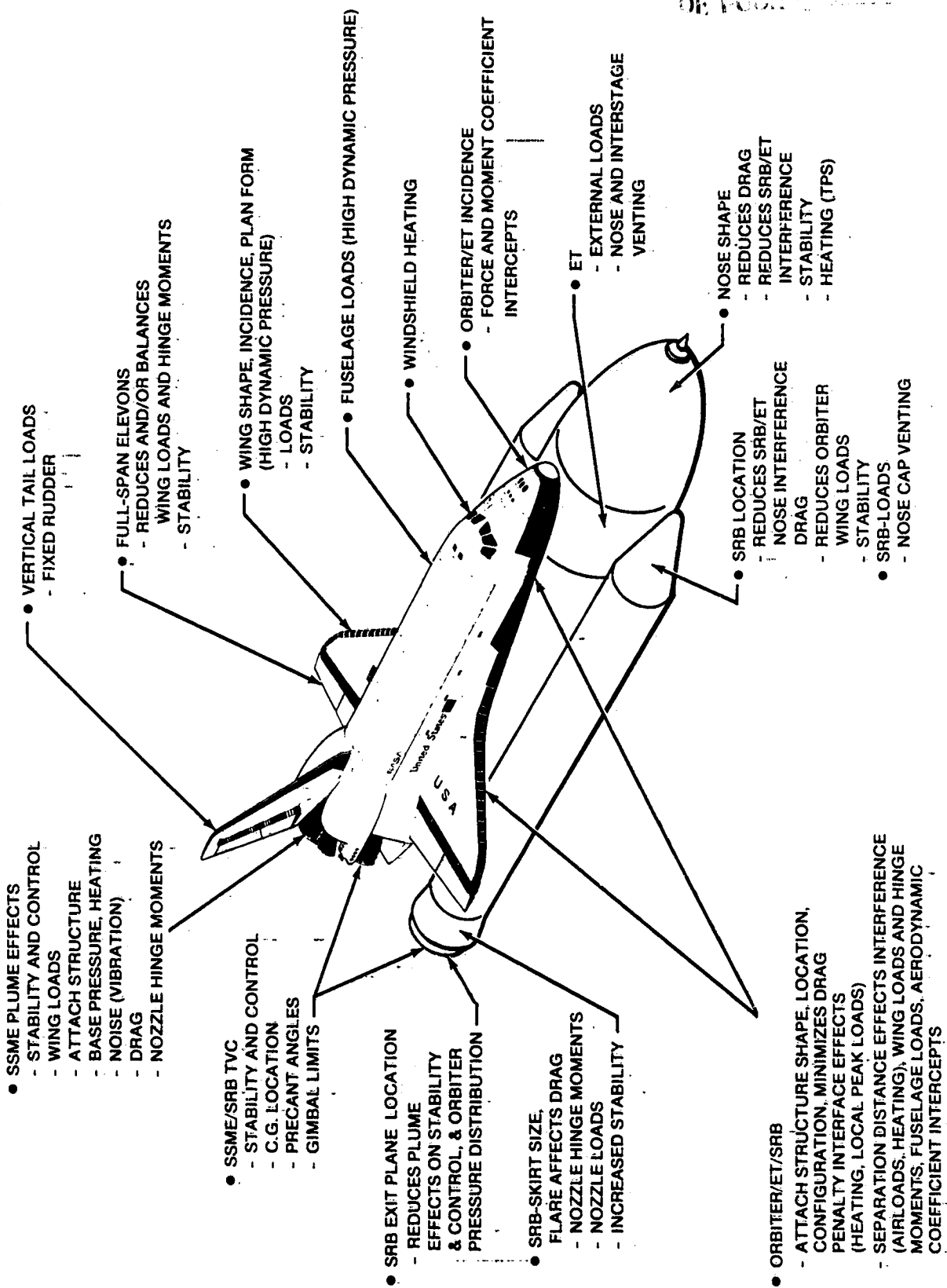


Figure 4.4. - Space Shuttle Integrated Vehicle aerodynamic considerations.

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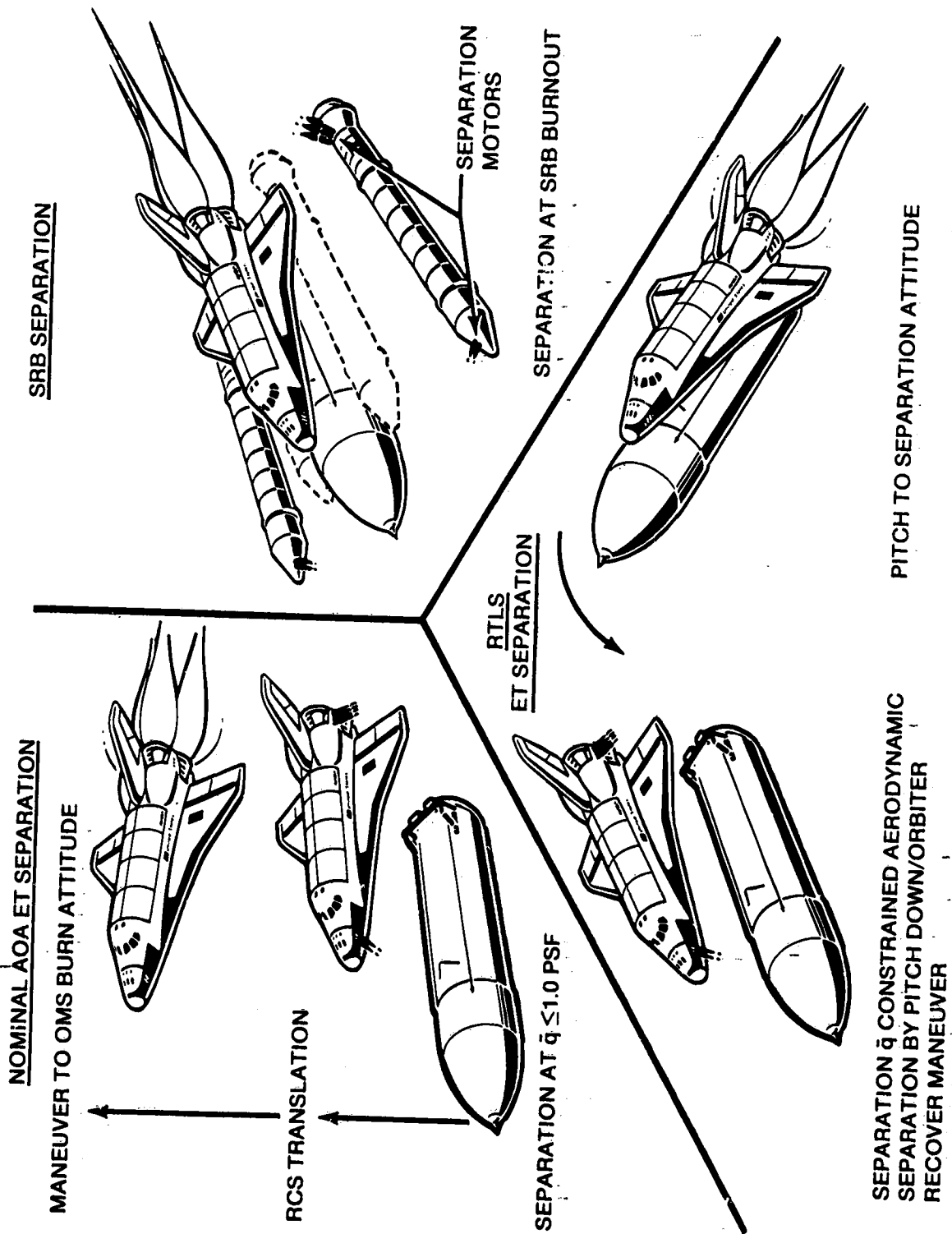


Figure 4.5. - Space Shuttle stage separation characteristics.

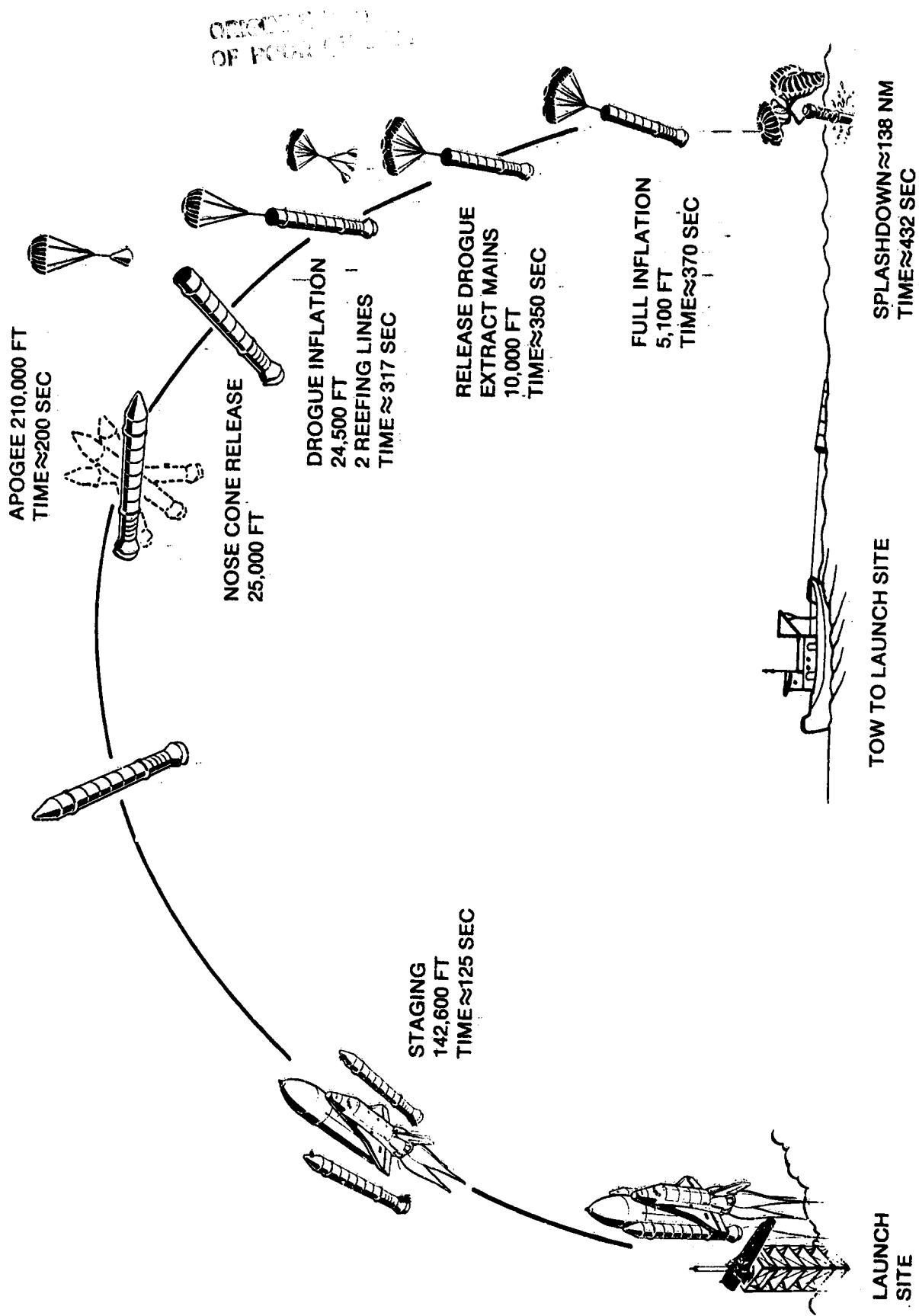


Figure 4.6. - Space Shuttle solid rocket booster recovery phases.

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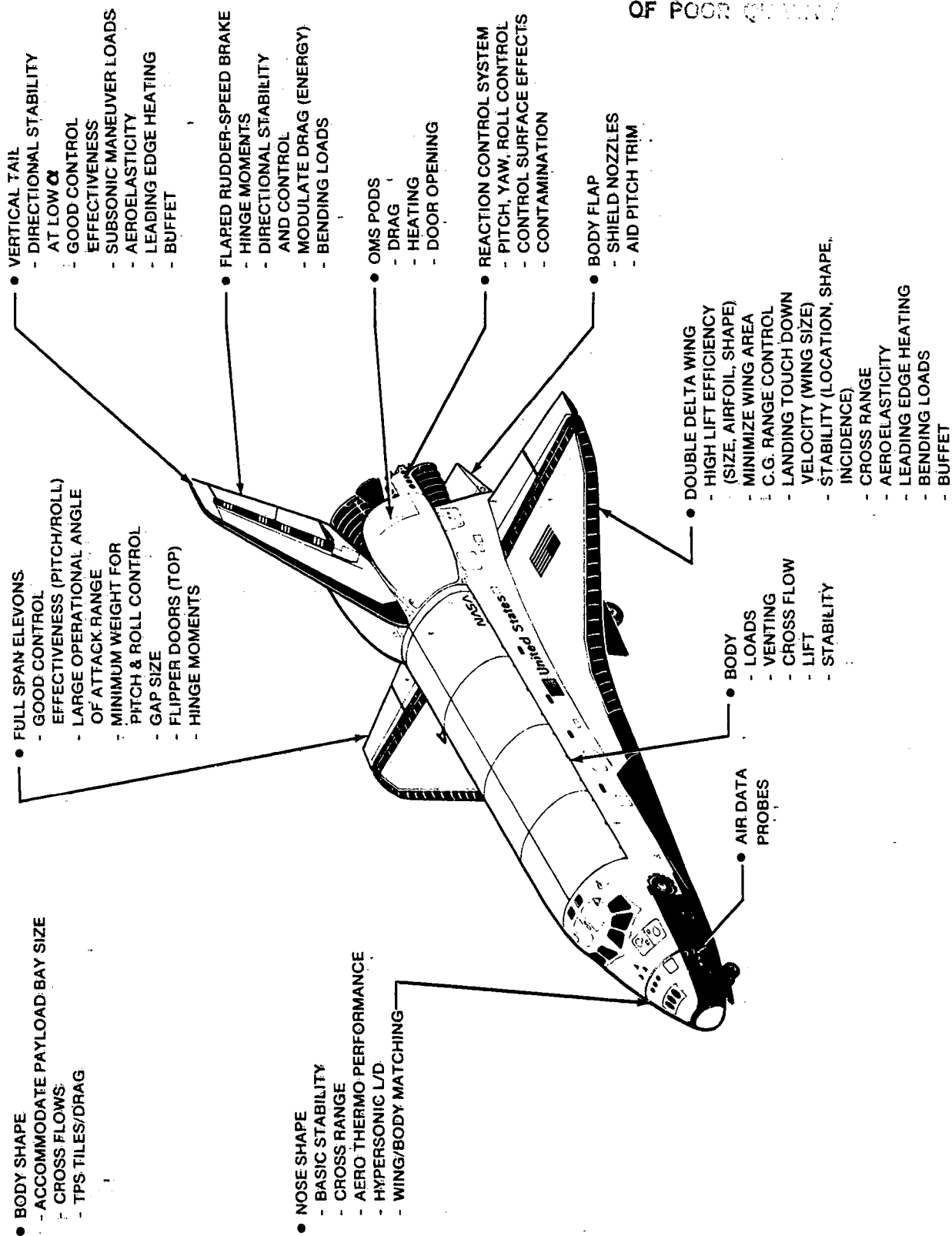


Figure 4.7. - Space Shuttle Orbiter Vehicle aerodynamic considerations.

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|                 | 747  |  | ORBITER   |   |
|-----------------|--|--|---|---|
|                 | WING   | VERT   | WING  | VERT  |
| AREA            | 5500 FT <sup>2</sup><br>(1532.85 cm <sup>2</sup> ) | 830 FT <sup>2</sup><br>(231.32 cm <sup>2</sup> ) | 2690 FT <sup>2</sup><br>(749.70 cm <sup>2</sup> ) | 413.25 FT <sup>2</sup><br>(115.17 cm <sup>2</sup> ) |
| SPAN            | 2348 IN<br>(5963.92 cm)                            | 387 IN<br>(982.98 cm)                            | 936.68 IN<br>(2379.17 cm)                         | 315.72 IN<br>(801.93 cm)                            |
| ASPECT<br>RATIO | 6.96   | 1.25   | 2.265   | 1.675   |
| TAPER RATIO     | 0.356  | 0.340  | 0.200   | 0.404   |
| SWEEP           | 37.5° (1/4C)                                       | 45.0° (1/4C)                                     | 45° LE  | 45° LE  |
| DIHEDRAL        | 7.0°   | —  | 3.5° TE   | —   |
| INCIDENCE       | 2.0°   | —  | 0.5°  | —   |
| MAC             | 327.78 IN.<br>(832.56 cm)                          | 334.16 IN.<br>(848.77 cm)                        | 474.72 IN.<br>(1205.79 cm)                        | 199.80 IN.<br>(489.51 cm)                           |

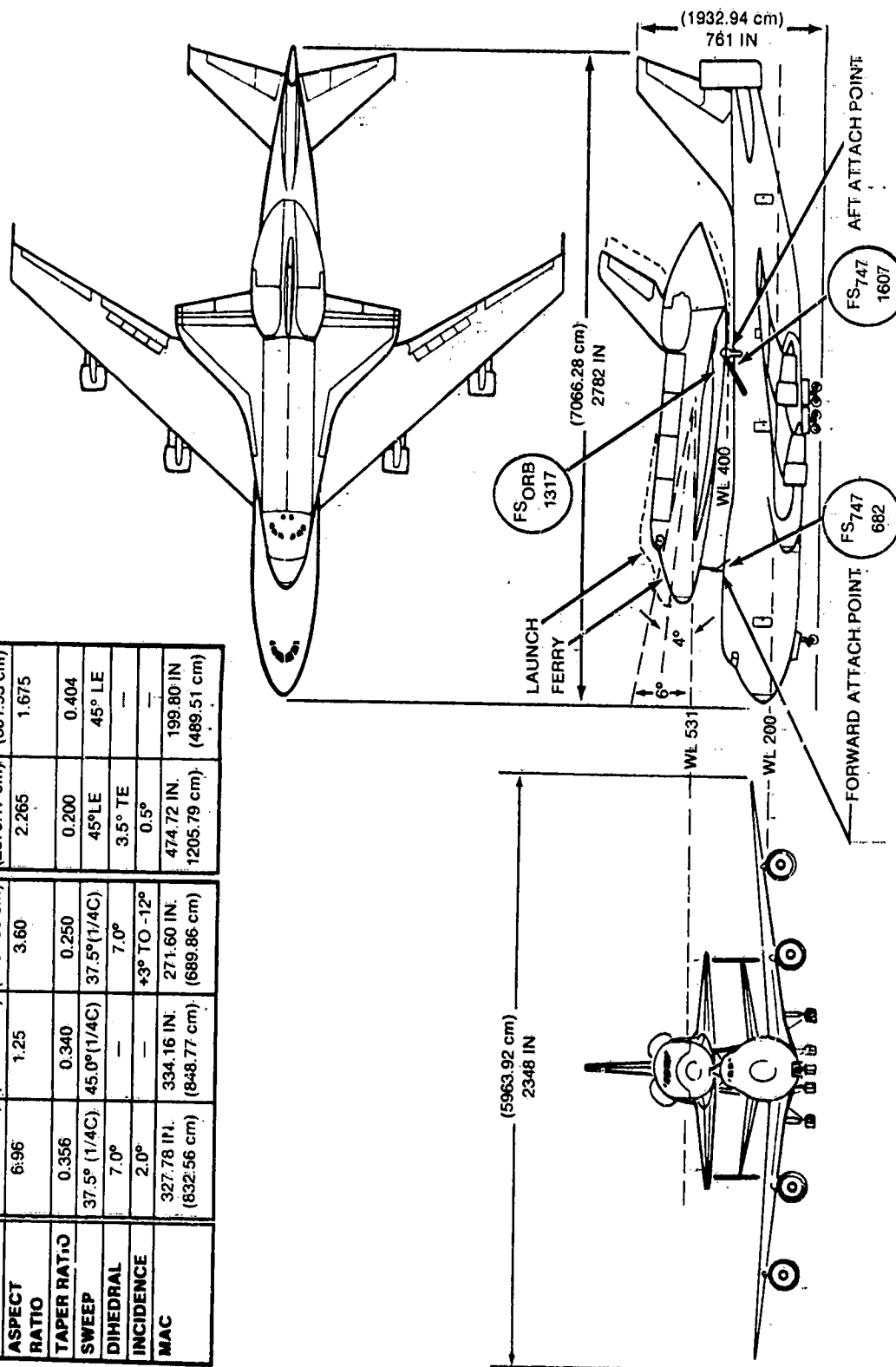


Figure 4.8. - Space Shuttle carrier aircraft mated configuration.

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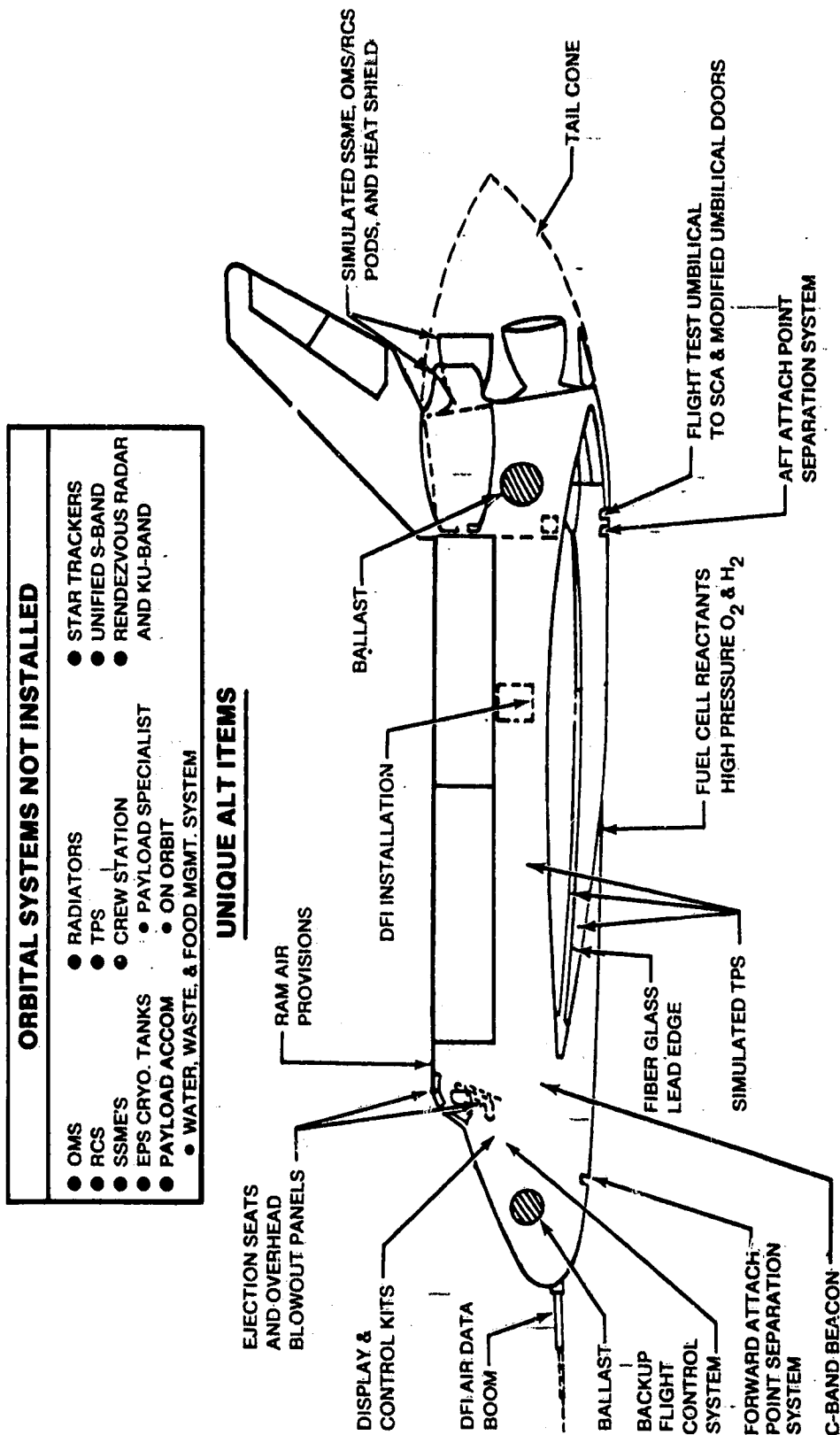


Figure 4.9. - Space Shuttle Orbiter Vehicle-101 configuration for ALT.

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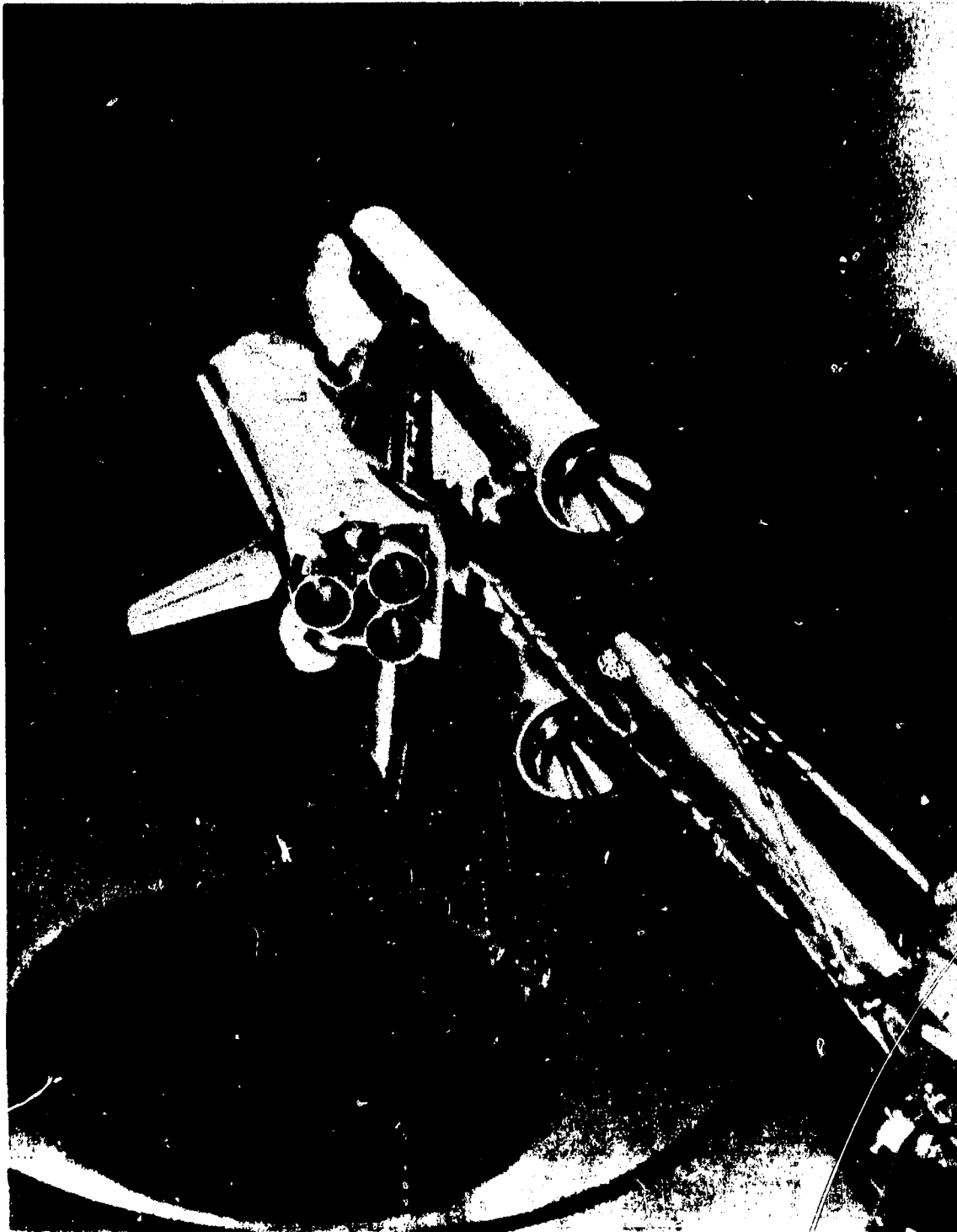


Figure 5.1. - Integrated Vehicle no. 14 sting-supported from ET base;  
ARC 8- by 7-ft Supersonic Wind Tunnel.

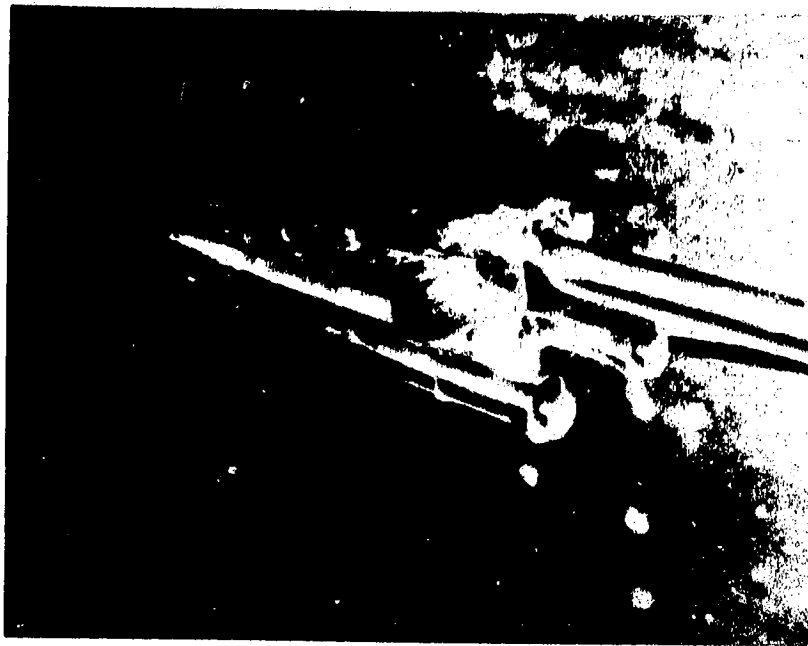


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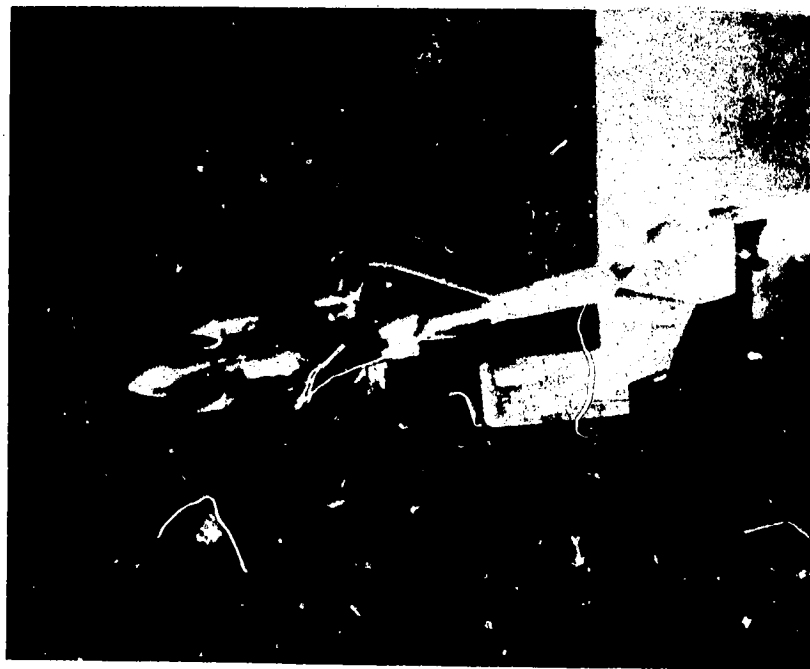


Figure 5.2. - Integrated Vehicle model no. 67 sting-supported from Orbiter base; LaRC 8-ft Transonic Pressure Tunnel.

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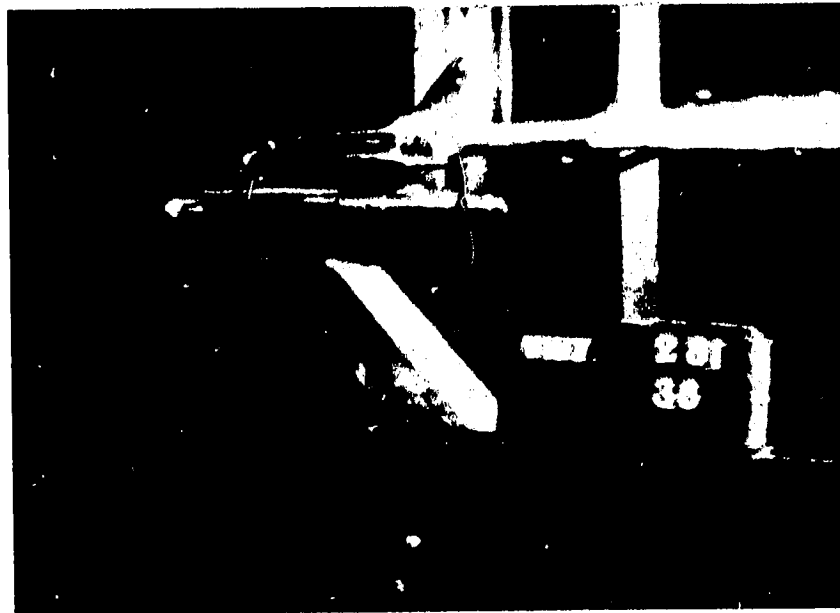
(a) Sting support from Orbiter base.



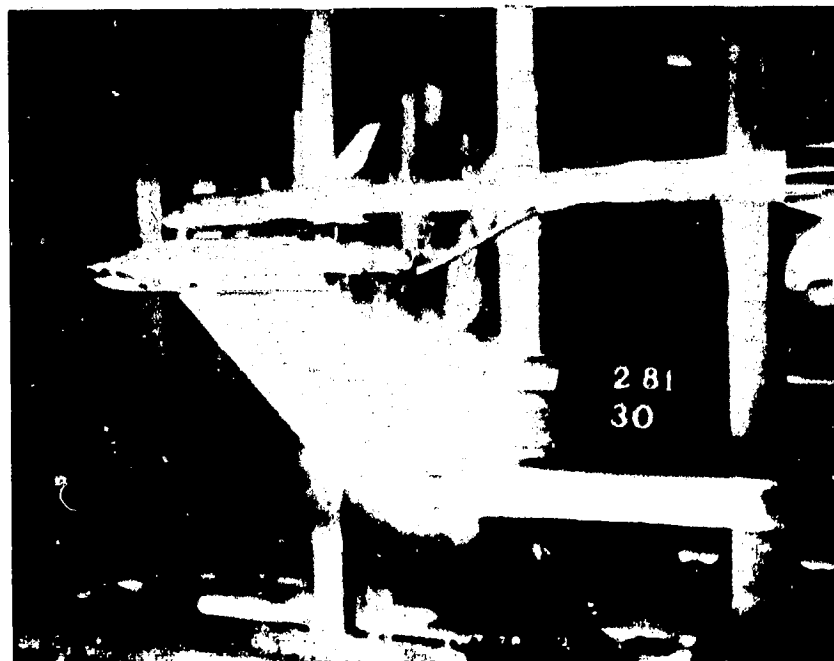
(b) Blade support from SRB side with dummy sting.

Figure 5.3. - Integrated Vehicle model support interference tests; model 13 in the RI 7-ft Transonic Wind Tunnel.

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(c) Blade support from ET bottom (forward position) with dummy sting.



(d) Blade support from ET bottom (aft position) with dummy sting.

Figure 5.3. - Concluded.

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(a) Model no. 14 in the ARC 8- by 7-ft Supersonic Wind Tunnel.

Figure 5.4. - Integrated Vehicle plume effects tests; sting-supported.

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(b) Model no. 14 in the ARC 9- by 7-ft Supersonic Wind Tunnel.

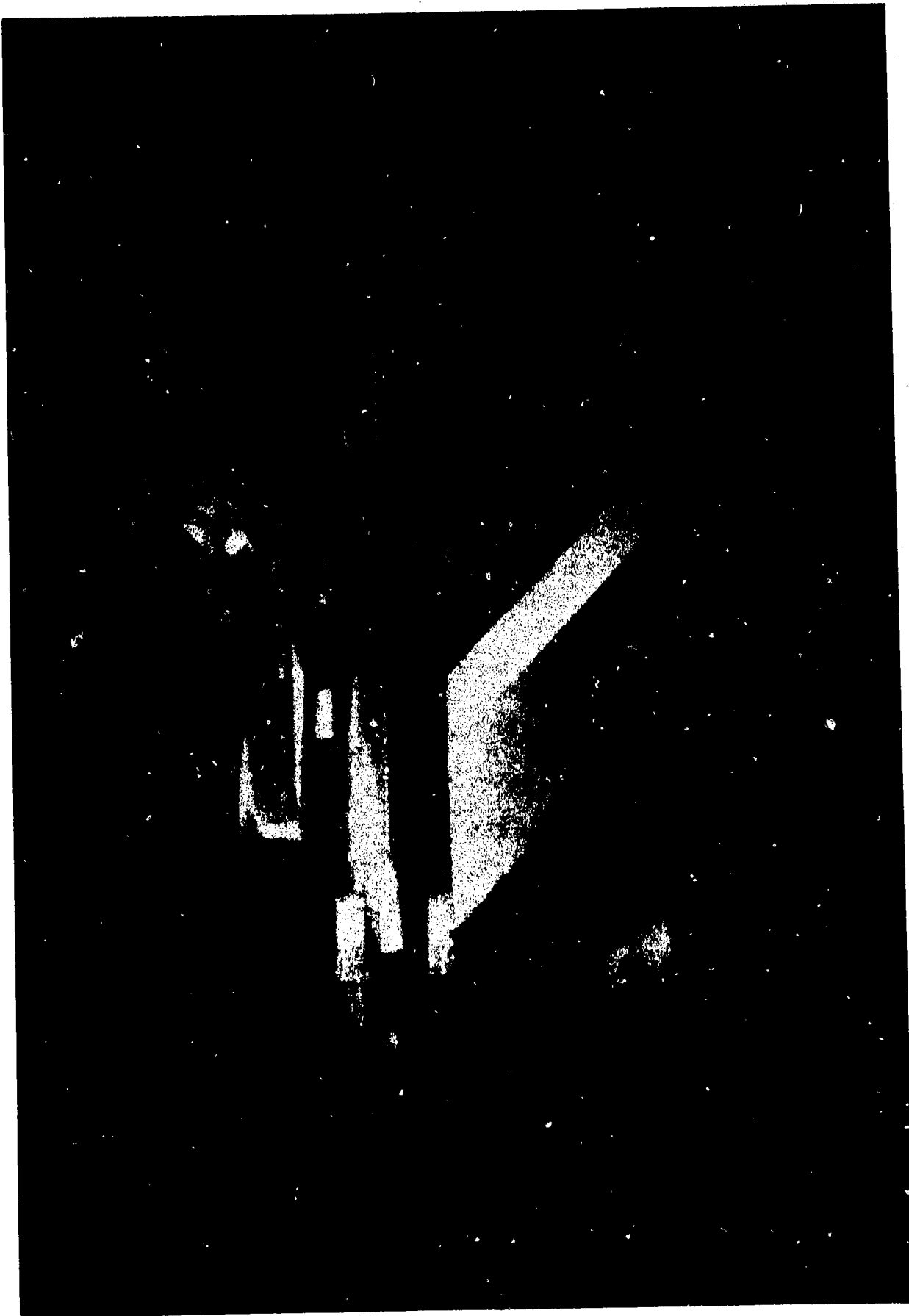
Figure 5.4. - Concluded.

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(a) Front view.

Figure 5.5. - Integrated Vehicle plume effects tests; blade-supported model no. 88 in the ARC 11-ft Transonic Wind Tunnel.



(b) Side view with active plumes.

Figure 5.5. - Continued.

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(c) Base view.

Figure 5.5. - Concluded.



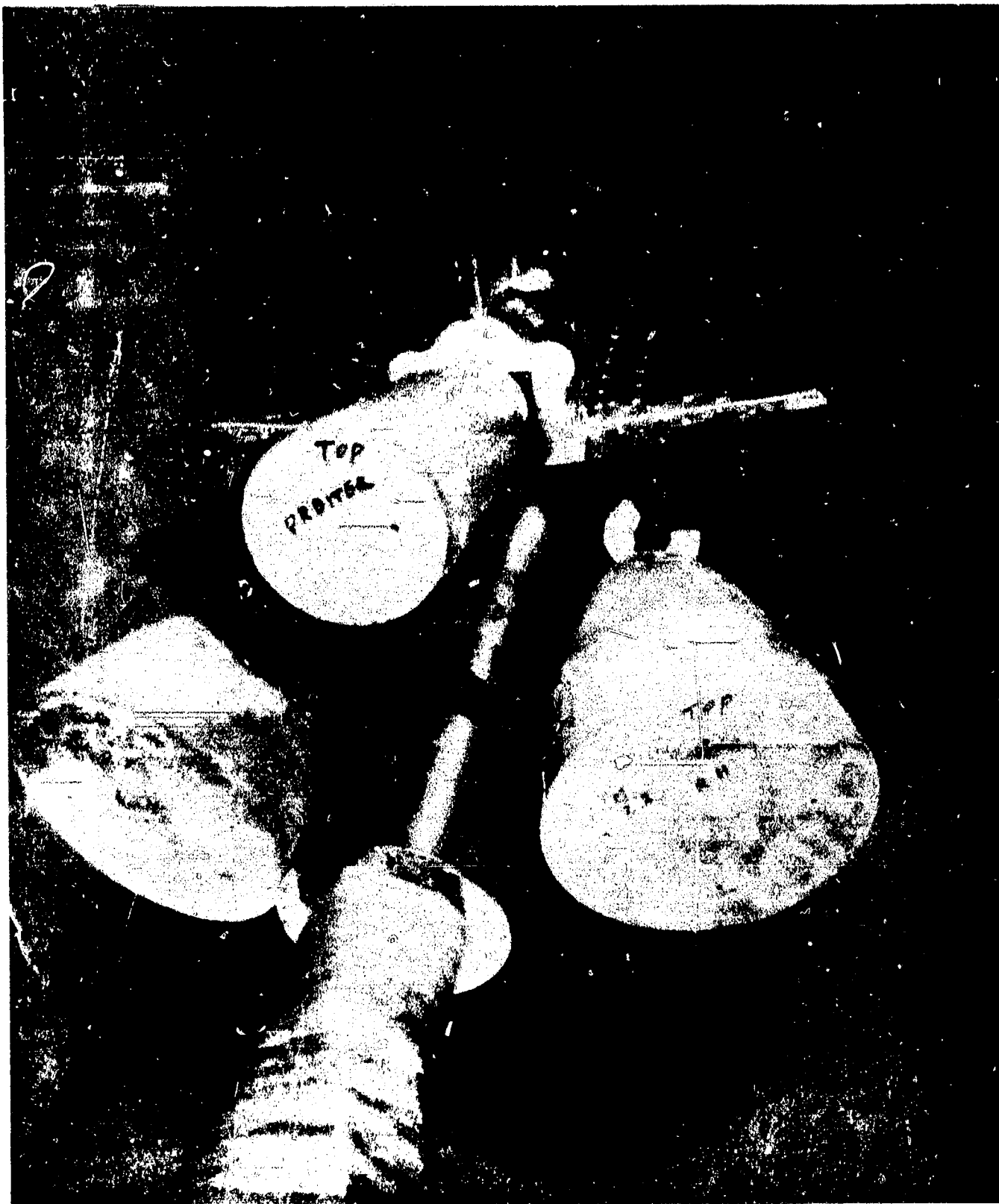


Figure 5.6. - Integrated Vehicle plume effects test; solid plumes, model no. 14 in the ARC 9- by 7-ft Supersonic Wind Tunnel.

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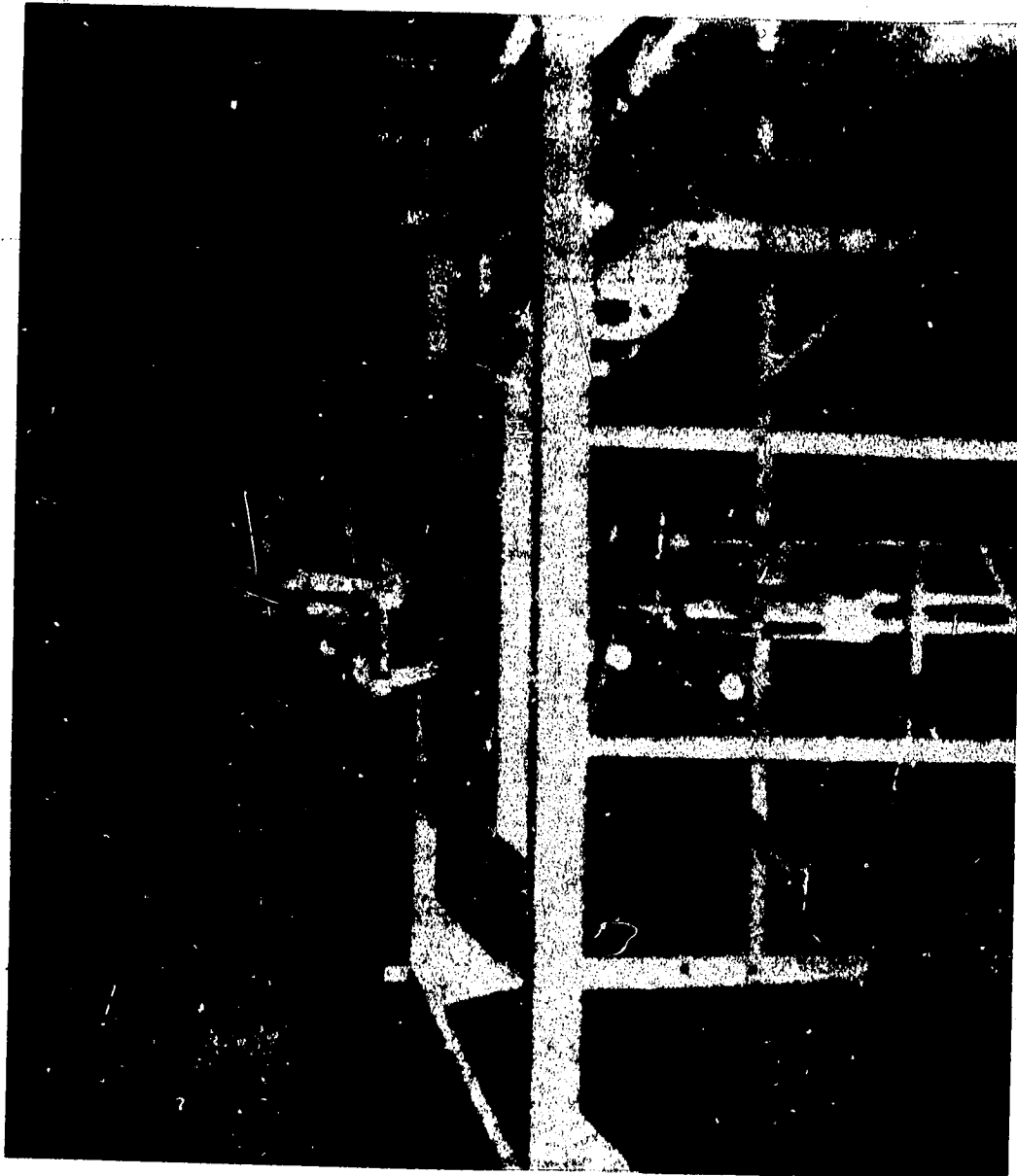
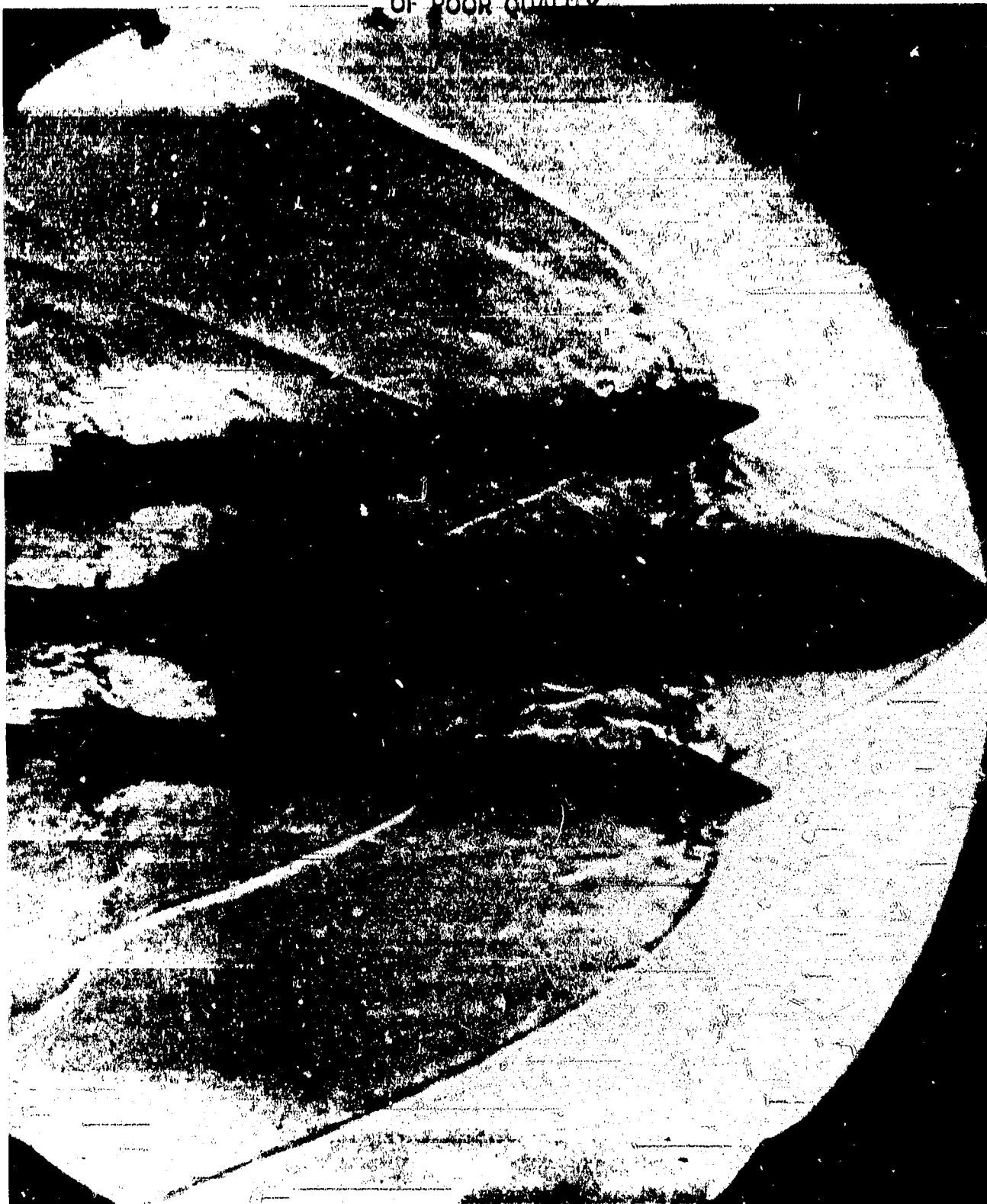


Figure 5.7. - Integrated Vehicle plume effects at high altitudes; model no. 25 in the JSC Vacuum Chamber Facility.

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(a) Plan view.

Figure 5.8. - First stage separation test with SRB separation-motors simulated; \_  
model no. 32 in the AEDC-A Tunnel.

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(b) Right side view.

Figure 5.8. - Concluded.

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Figure 5.9. - First stage separation test (motor off); model no. 52 using the captive trajectory system in the AEDC-A Tunnel.

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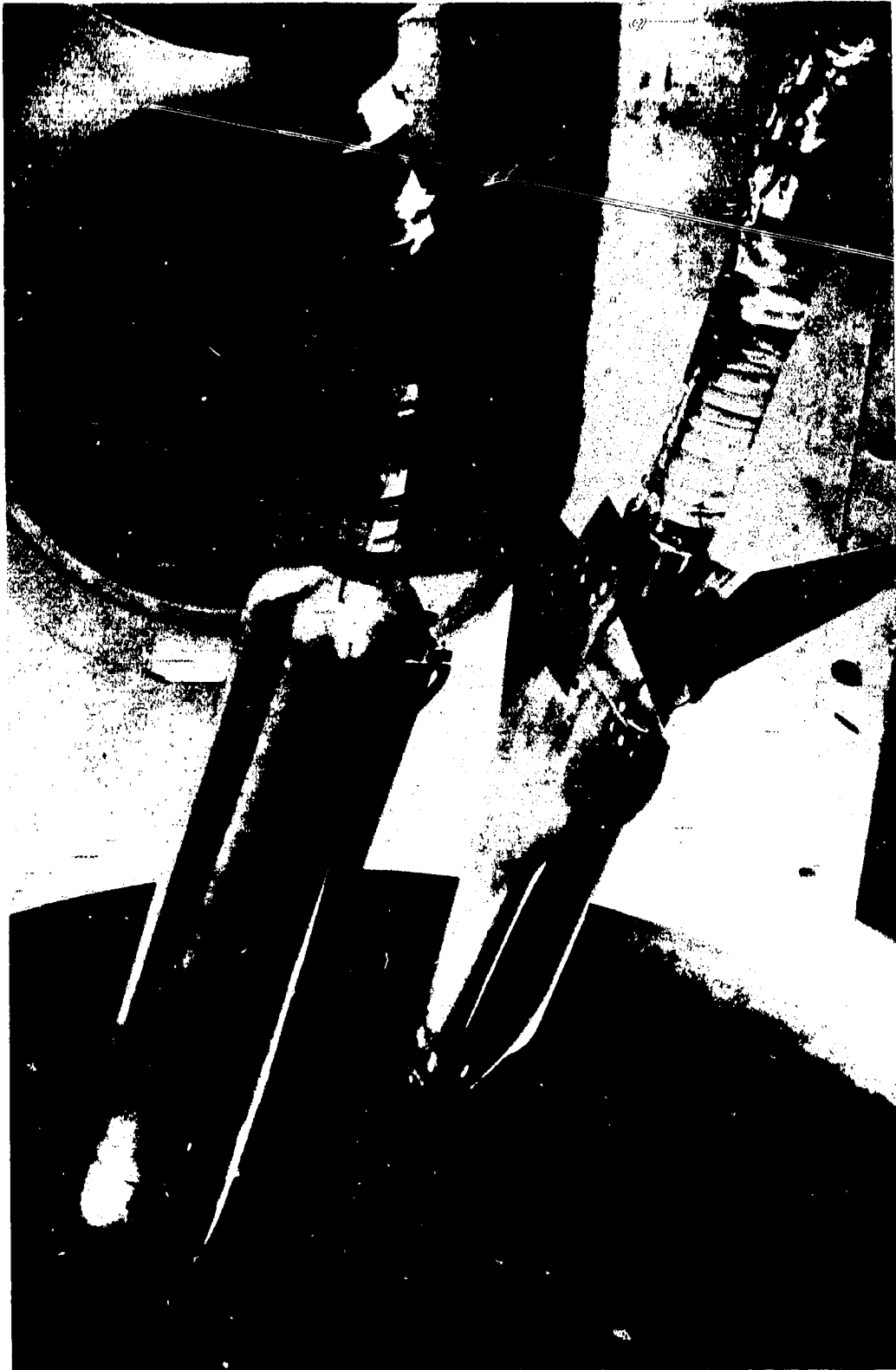


Figure 5.10. - Second stage separation test (RTLS conditions); model no. 70 in the AEDE-B Tunnel.

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Figure 5.11. - Heating test using thermocouples; model no. 60 in the AEDC-A Tunnel.

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Figure 5.12. - Heating test of base heat shield at simulated high altitude;  
model no. 25 in the MSFC Impulse Base Flow Facility.



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Figure 5.13. - Heating tests with high fidelity models; closeup of aft  
Orbiter/ET attach structure, model no. 60 in the AEDC-A Tunnel.

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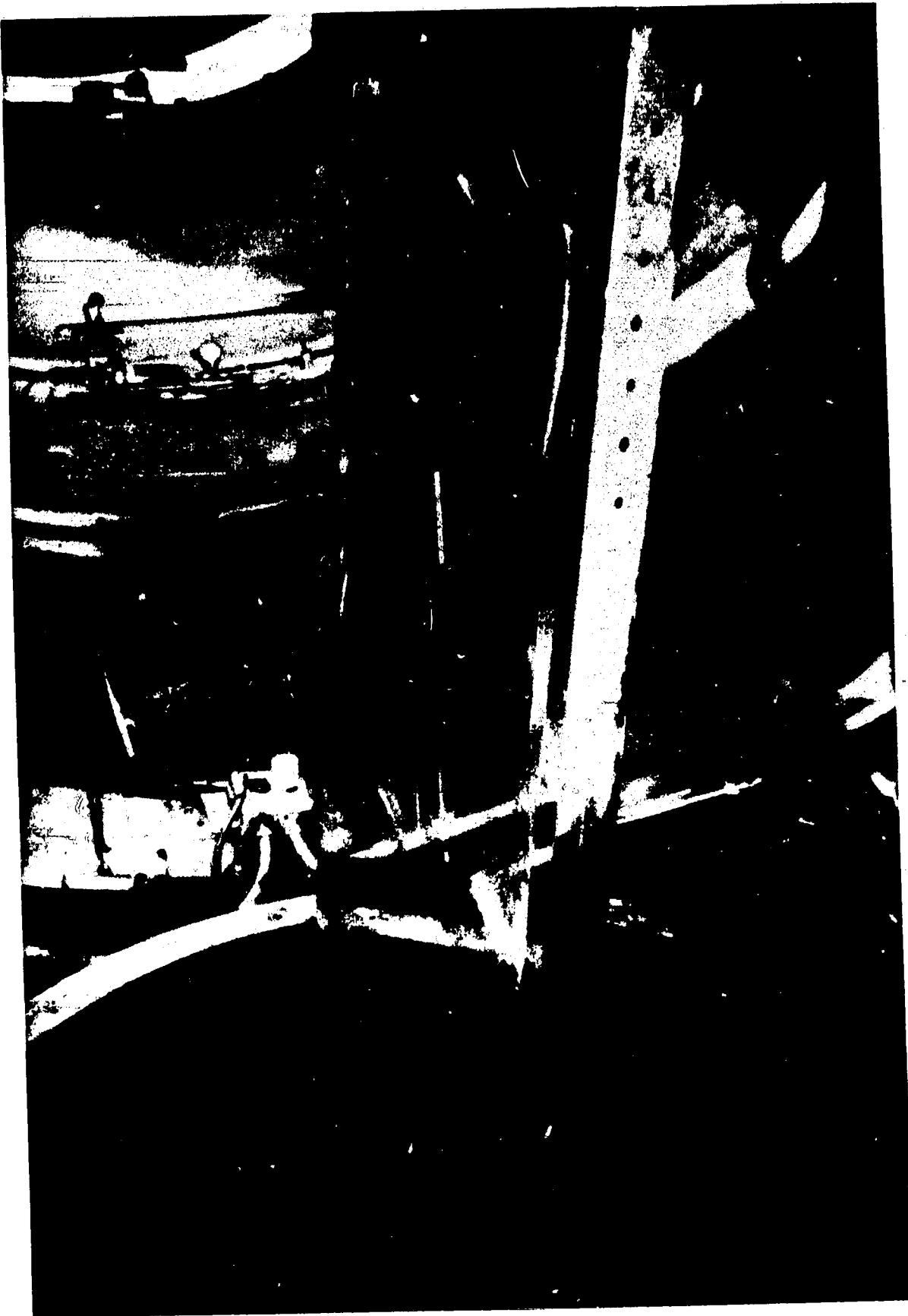
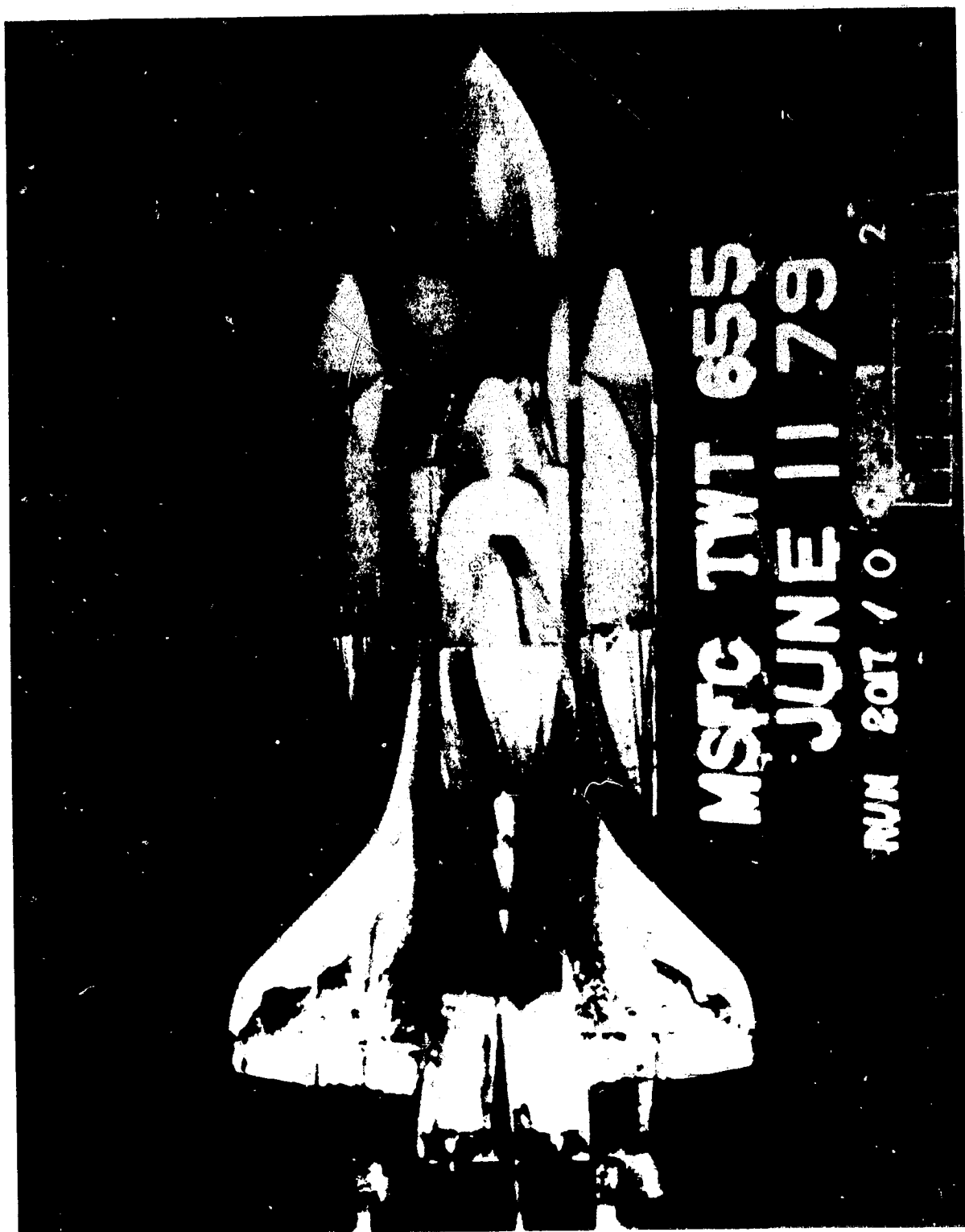


Figure 5.14. - Heating/pressure test of full-scale tiles; model no. 58 in the  
ARC 3.5-ft Hypersonic Tunnel.

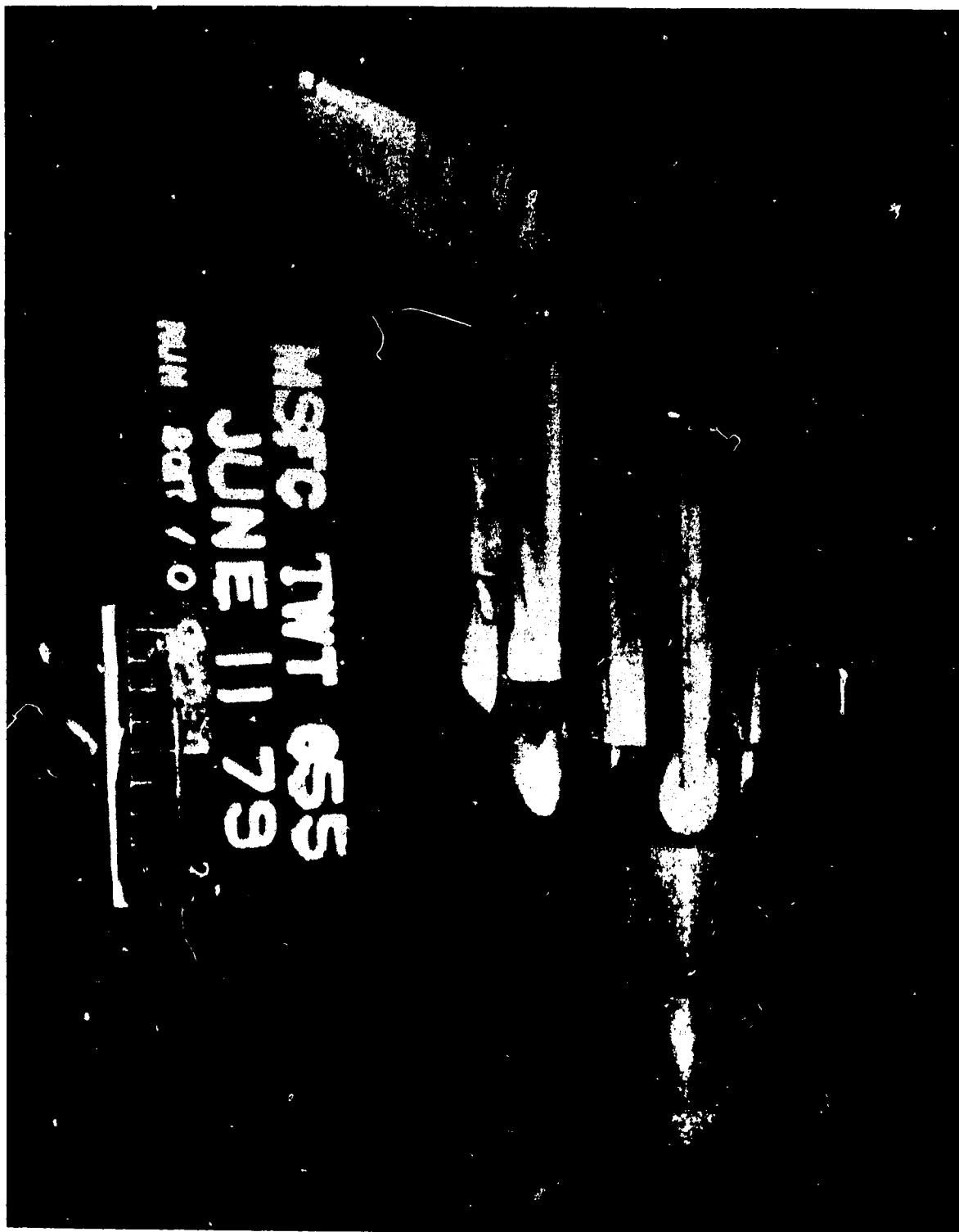
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(a) Plan view, top.

Figure 5.15. - Oil flow test; model no. 74, MSFC 14-in. Trisonic Wind Tunnel.

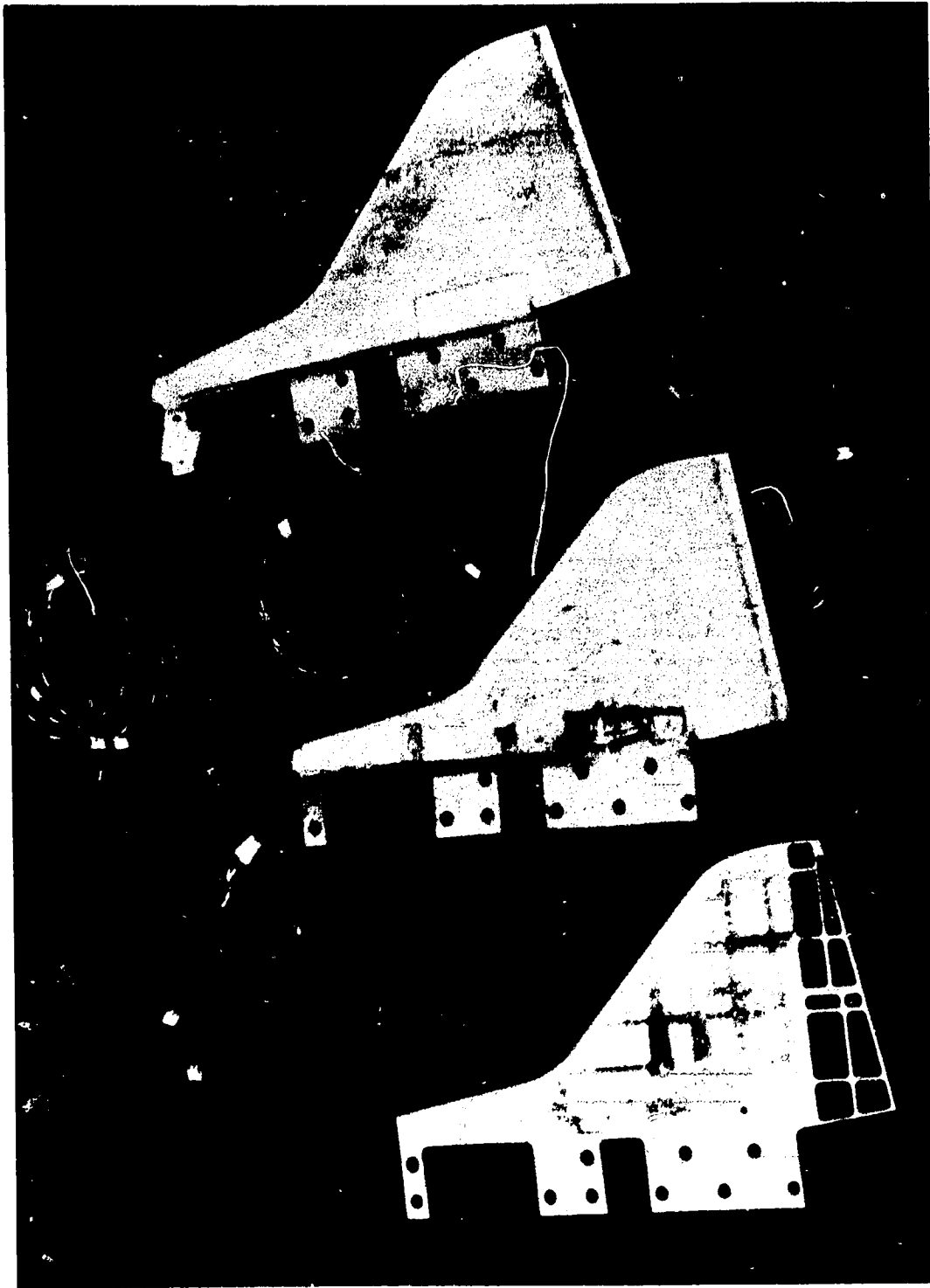
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(b) Side view, left.

Figure 5.15. - Concluded.

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(a) Wind construction detail.

Figure 5.16. - Reflection plane model no. 30 tested in the LaRC 26-in. Transonic Blowdown Tunnel.

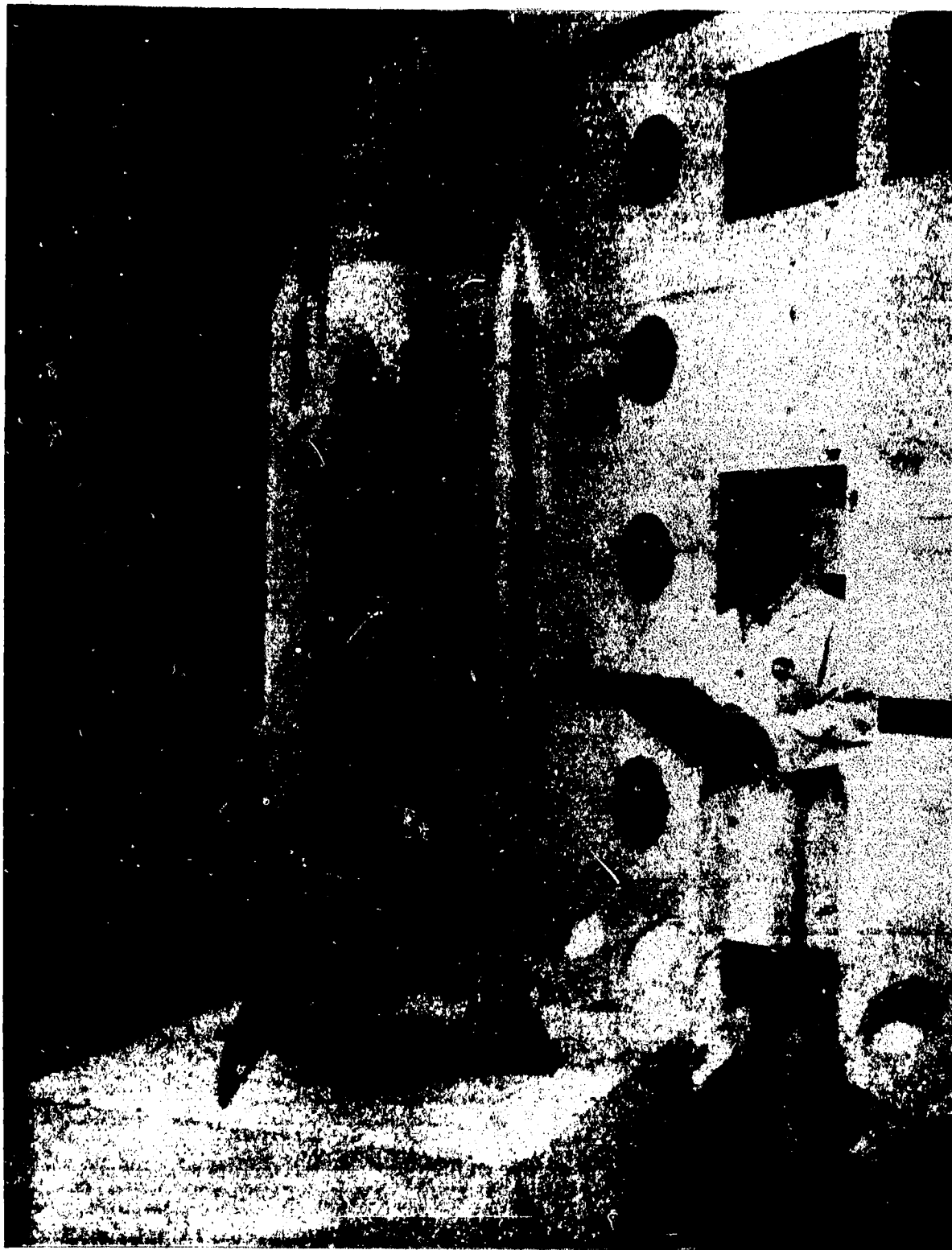
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(b) Wing/body assembly.

Figure 5.16. - Concluded.

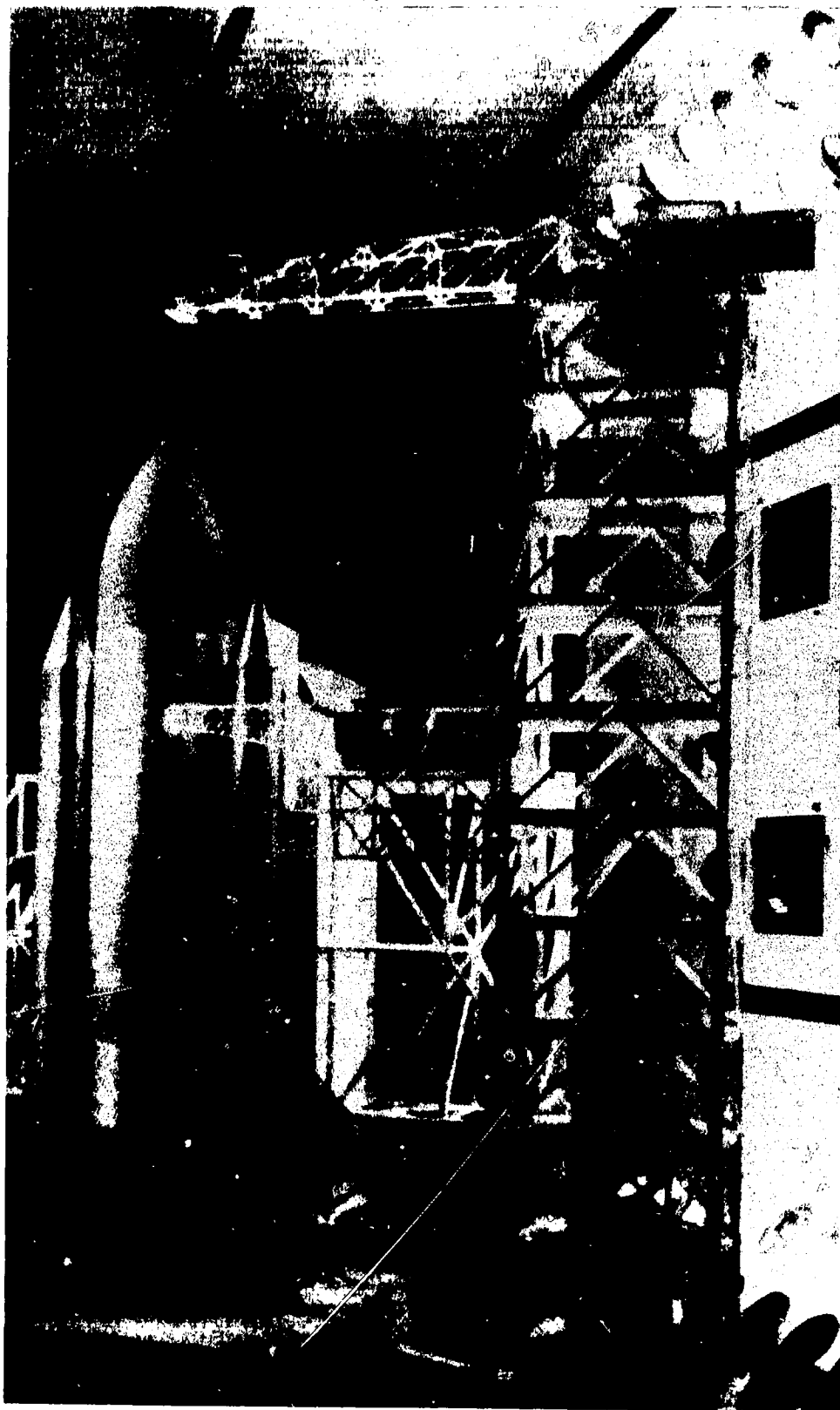
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(a) Lift-off configuration.

Figure 5.17. - Ground winds effect tests in the LaRC 16-ft Transonic Dynamics Tunnel;  
model no. 100.

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(b) Launch tower configuration.

Figure-5.17. - Concluded.



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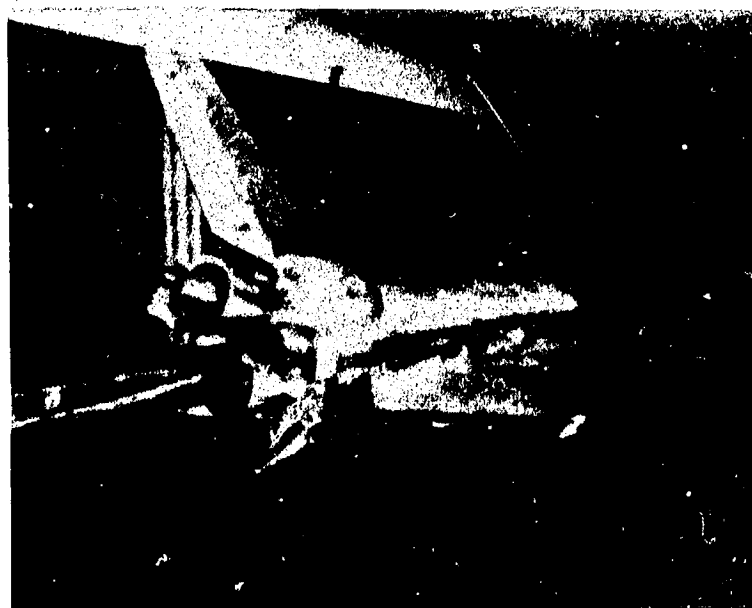


Figure 5.18. - AADS test in the ARC 14-ft Transonic Wind Tunnel; seven percent forebody model no. 68.

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(a) Aft sting/strut floor mount; model no. 39 in the RI Low-Speed Wind Tunnel, front view.



(b) Aft sting/strut floor mount; model no. 39 in the RI Low-Speed Wind Tunnel, rear view.

Figure 5.19. - Orbiter test support arrangements.



(c) Aft sting/blade support strut; model no. 39 in the ARC 11-ft Transonic Wind Tunnel

Figure 5.19. - Continued.

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(d) Aft bent sting using roll to get  $\alpha$  and  $\beta$ ; model no. 49 in the AEDC-B Tunnel.

Figure 5.19. - Continued.



(e) Aft straight sting; model no. 106 in the AEDC-B Tunnel.  
Note the higher fidelity of this later model.

Figure 5.19. - Continued.

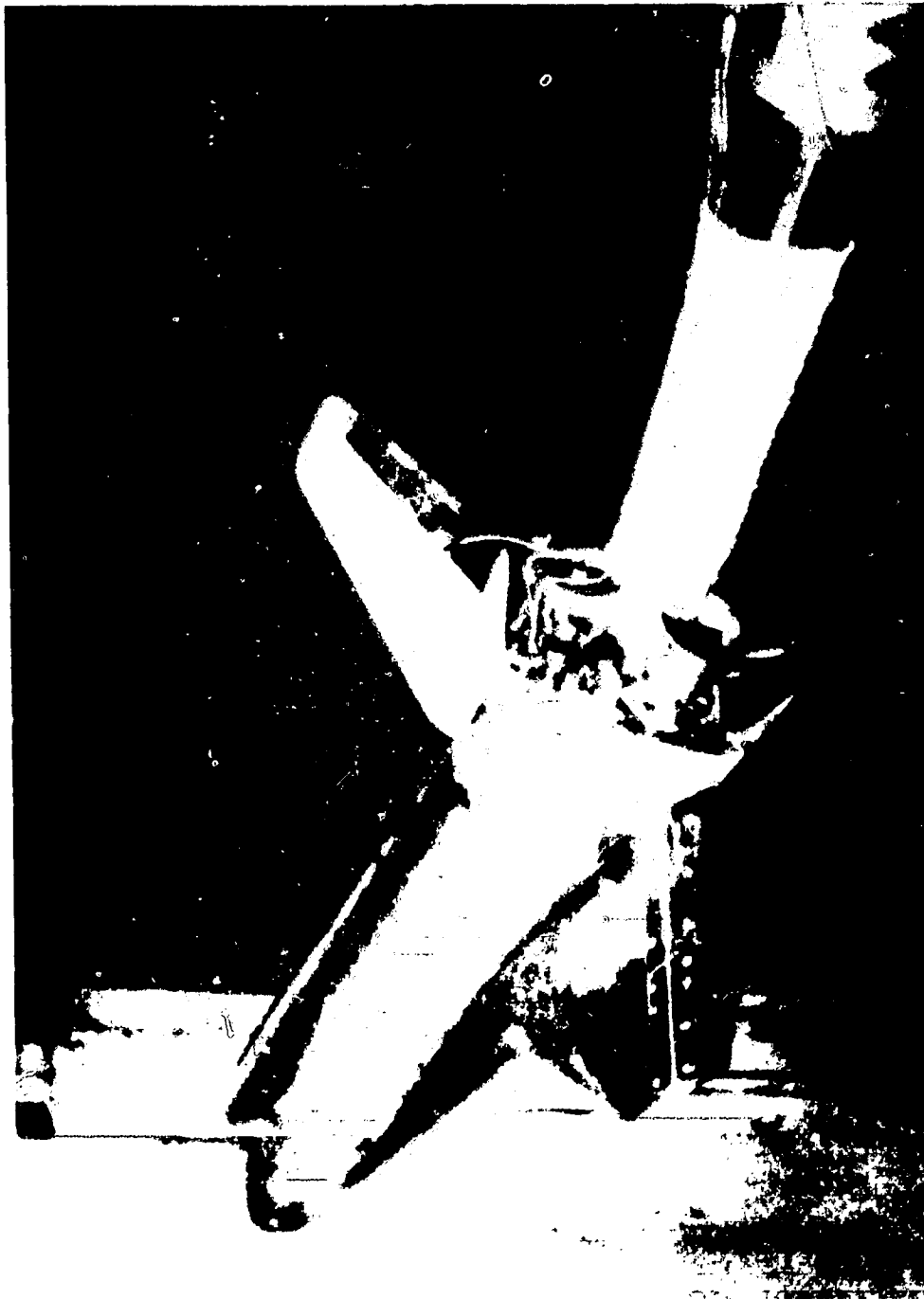
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(f) Aft bent sting; model no. 106 at high  $\alpha$  (AEDC-B).

Figure 5.19. - Continued.

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- (g) Aft bent sting; model no. 105 at Low  $\alpha$  (AEDC-A).  
Note the high fidelity model and the base pressure instrumentation.

Figure 5.19. - Continued.

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(h) Wing tip mount; model no. 43 in the RI Low-Speed Wind Tunnel.

Figure 5.19. - Continued.

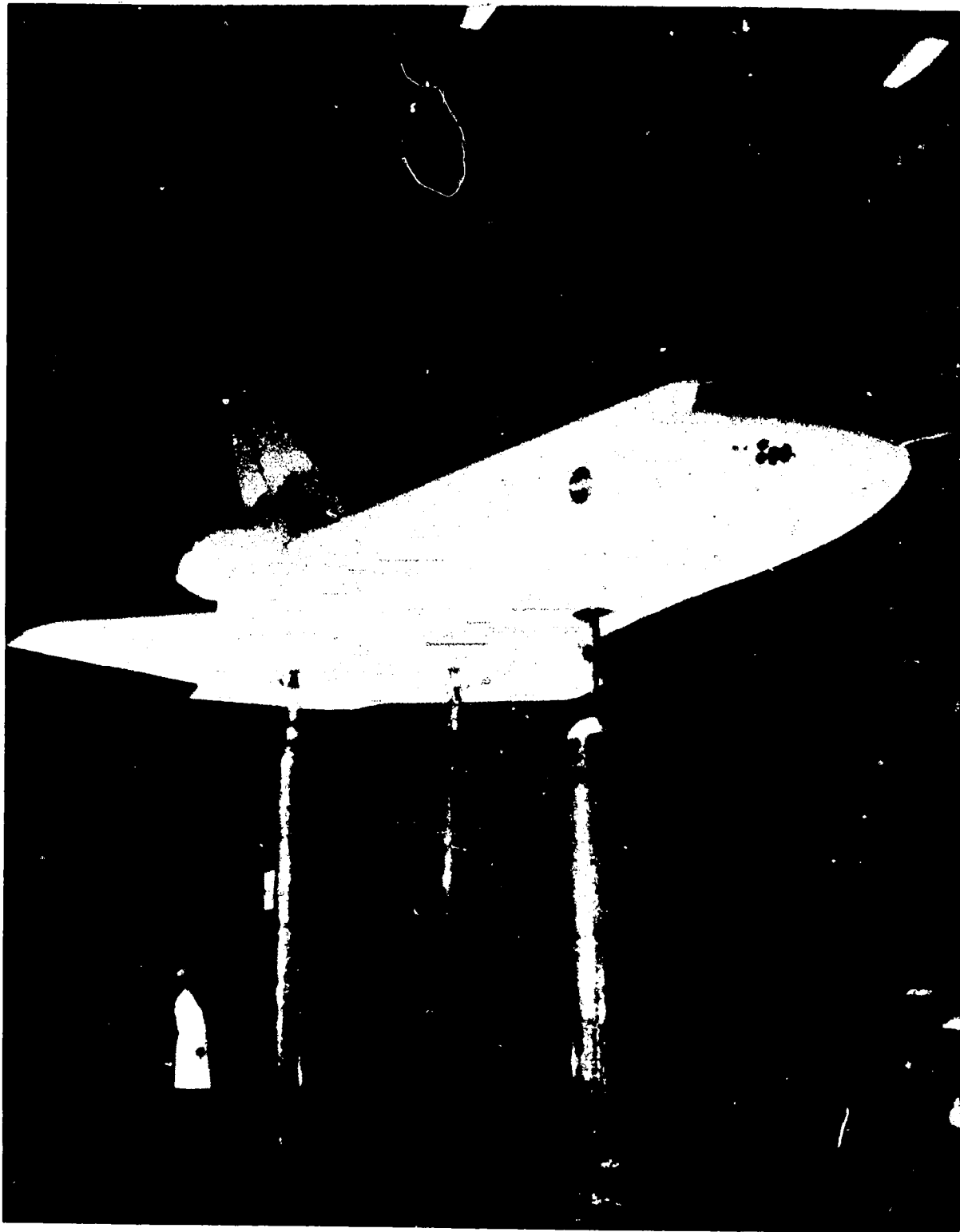


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(i) Three pylon strut support; model no. 45 in the ARC 12-ft Pressure Wind Tunnel.

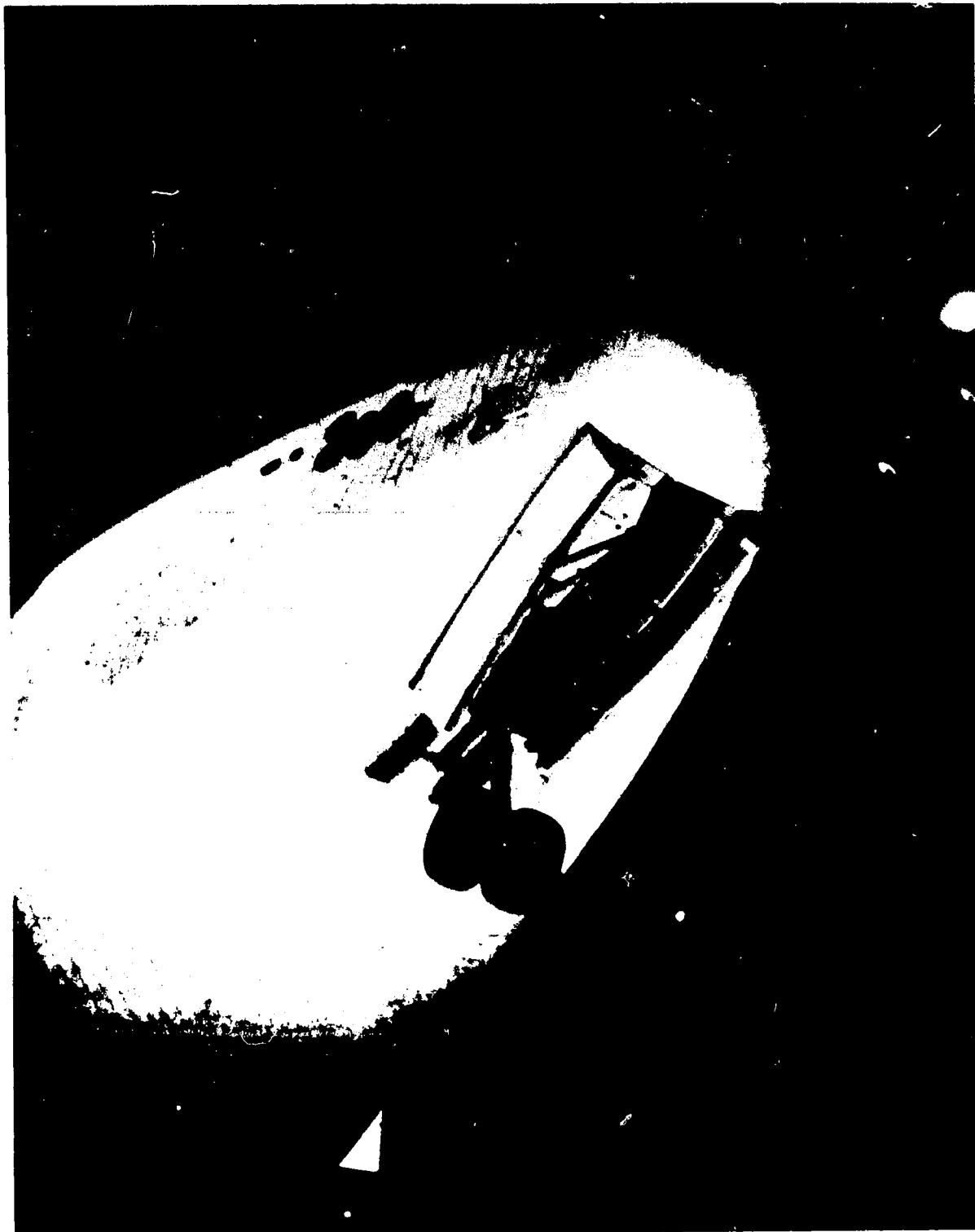
Figure 5.19. - Concluded.



(a) Three pylon strut support; front view.

Figure 5.20. - Large scale model (36 percent) no. 76 in the ARC 40- by 80-ft Subsonic Wind Tunnel.

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(b) Nose details showing tile simulation and the nose landing gear.

Figure 5.20. - Continued.

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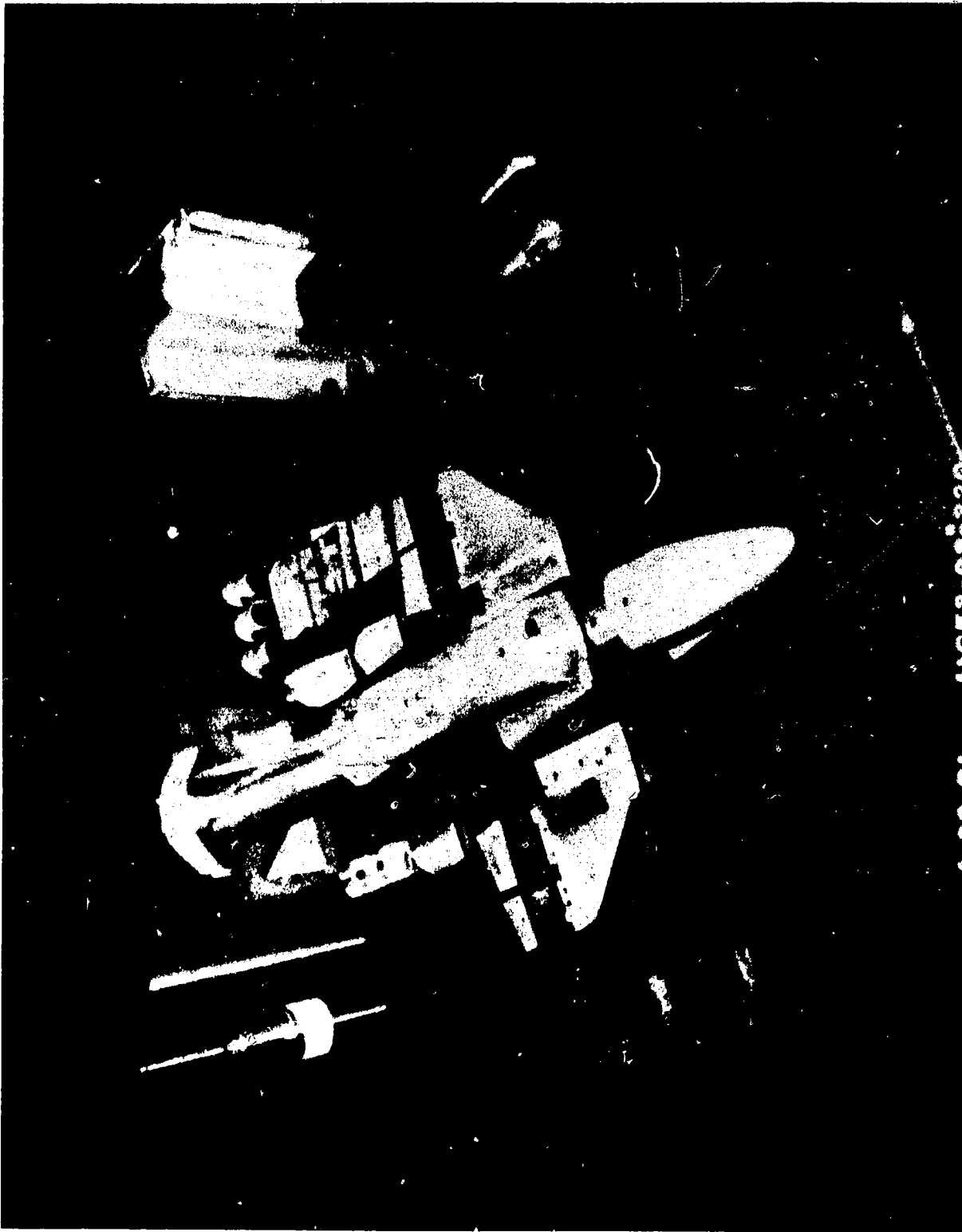
(c) Three pylon strut support; rear view.

Figure 5.20 - Continued.

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(d) Tailcone (ALT) configuration.  
Figure 5.20 - Concluded.



(a) Model no. 72; exploded view of bolt-on parts.

Figure 5.21. - Control surface deflection models.

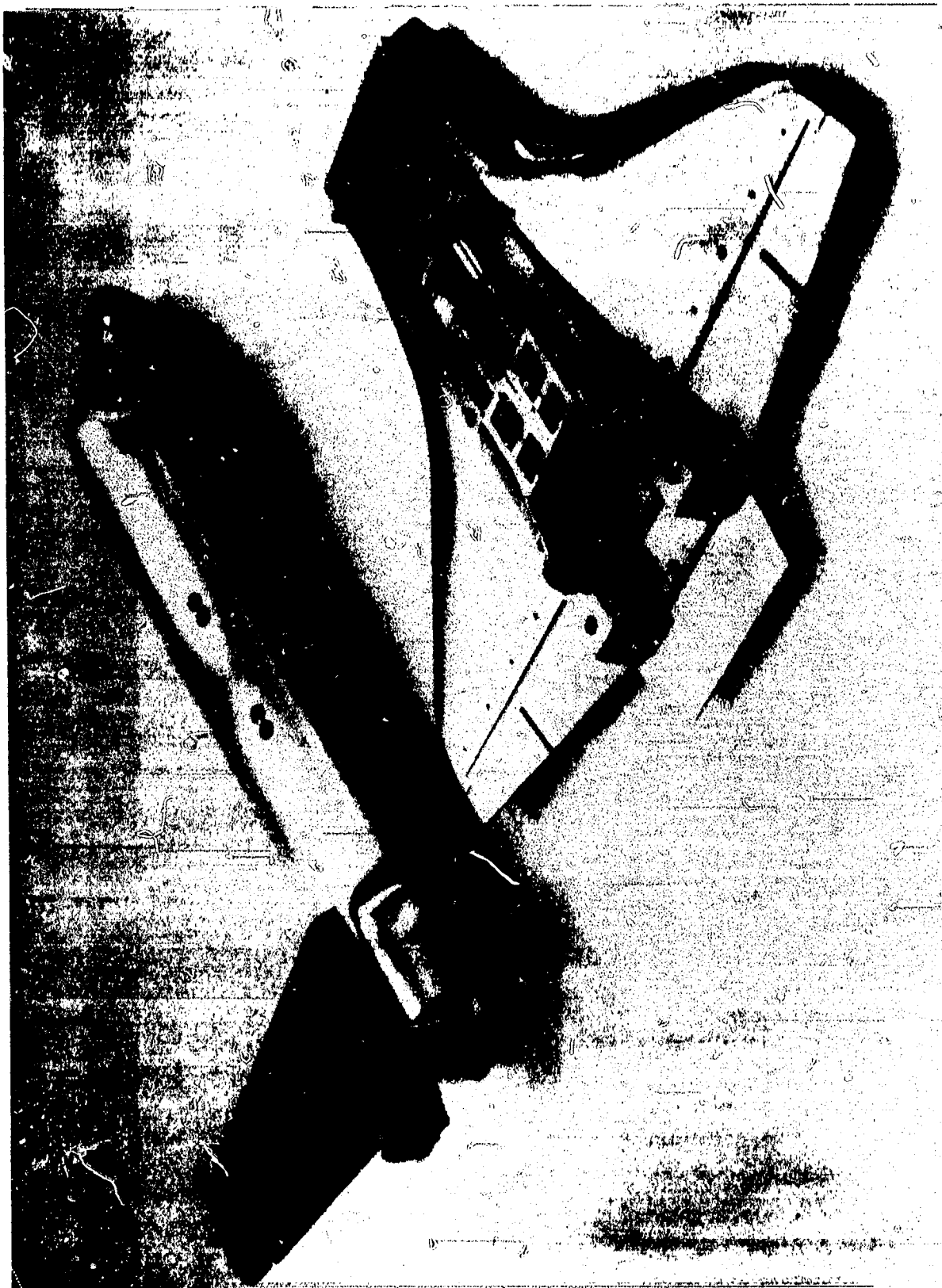
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(b) Model no. 72; assembled view of bolt-on parts.

Figure 5.21. - Continued.

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(c) Remote elevator model no. 44 showing internal mechanism.

Figure 5.21. - Continued.





(d) Remote elevator/body flap/rudder high fidelity model (Vehicle  
102 outer moldlines) no. 106.

Figure 5.21. - Concluded.

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(a) RCS pod being installed.

Figure 5.22. - RCS jet simulation model no. 70 in the LaRC Unitary Plan Wind Tunnel.

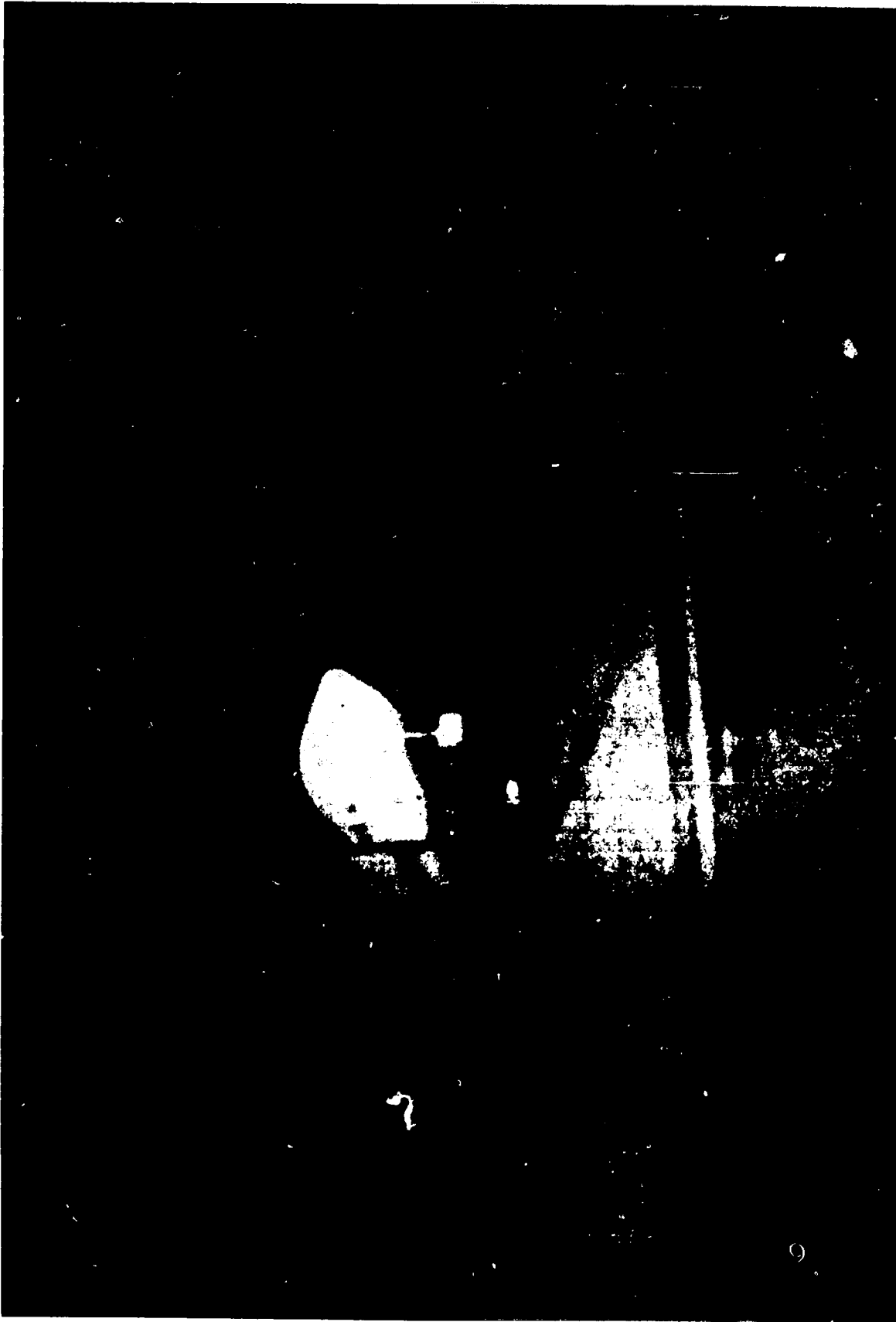
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(b) Assembled model.

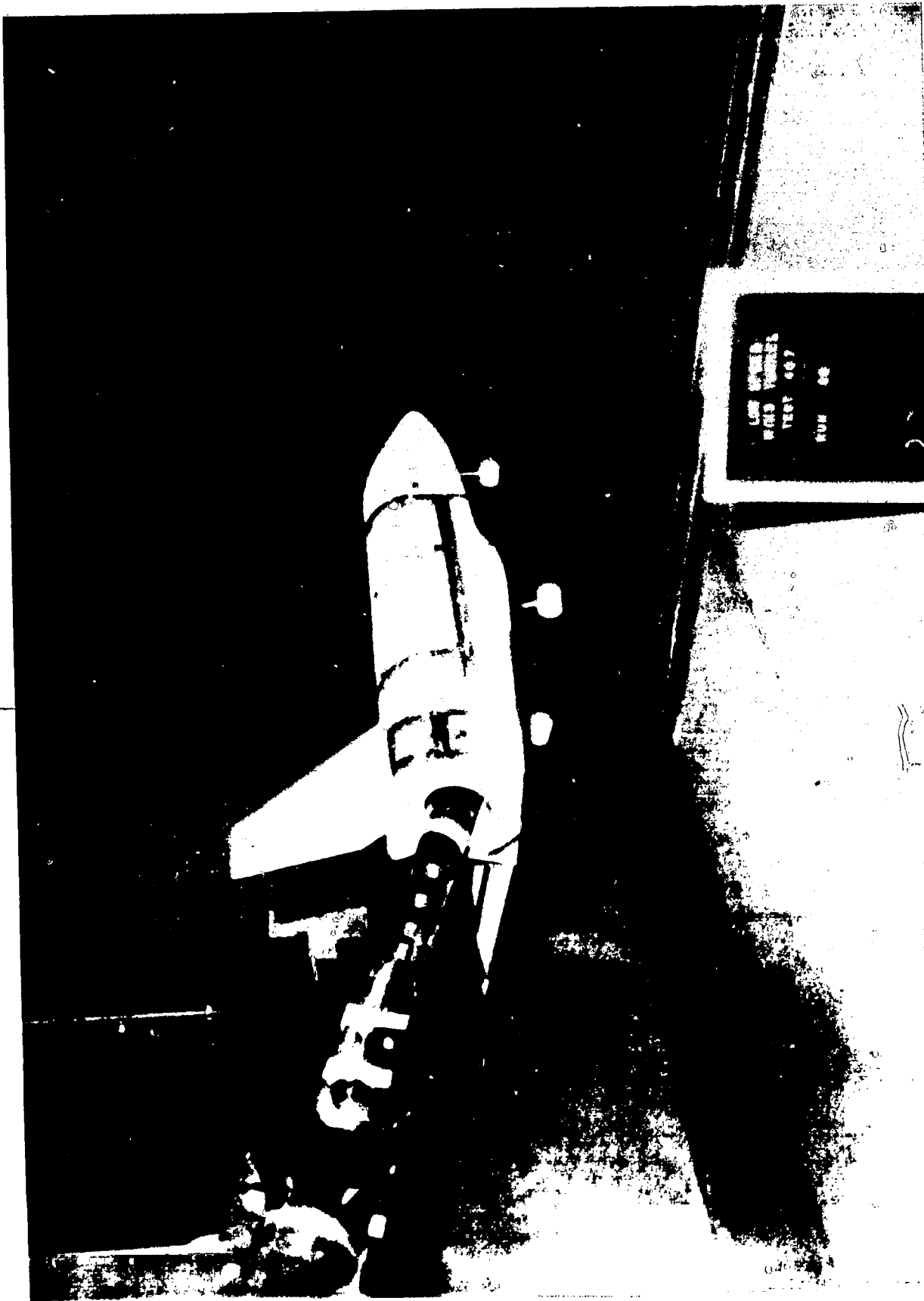
Figure 5.22. - Concluded.

Figure 5.23. - Aeroelastic Model. Picture not available.



(a) Front view.

Figure 5.24. - Ground effects tests; model no. 95 in the LTV 15- by 20-ft Low-Speed Wind Tunnel with moving ground plane.



(b) Rear view.

Figure 5.24. - Concluded.

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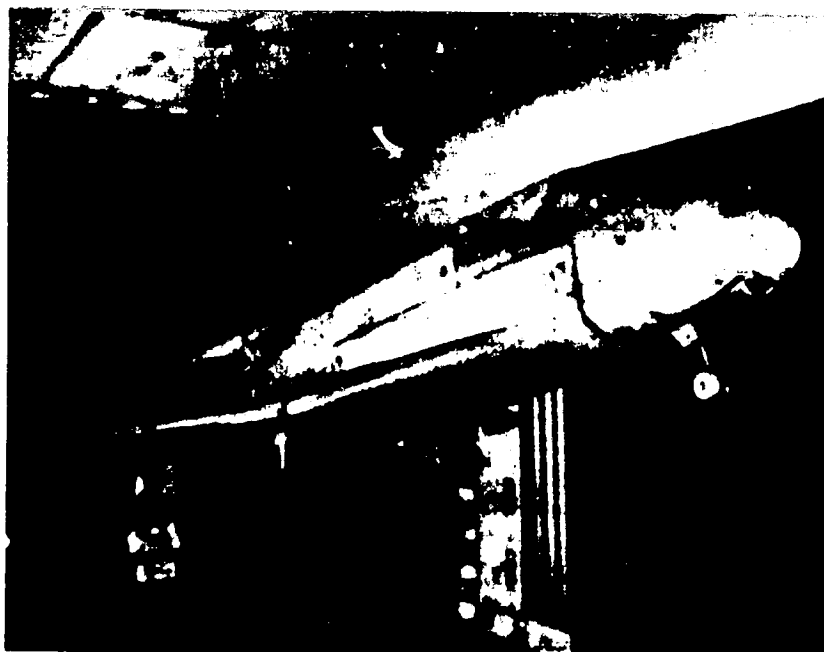


Figure 5.25. - Landing gear loads test; model no.16 in the RI Low-Speed Wind Tunnel.

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(a) Side probes in the ARC 8- by 7-ft Supersonic Wind Tunnel.  
Figure 5.26. - Orbiter ADS tests; forebody model no. 57.



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(b) Flight test boom (ALT) and side probes in the AEDC 16-ft Transonic Wind Tunnel.  
Figure 5.26. - Concluded.



(a) Model no. 46 (for LaPC Variable Density Tunnel Test).

Figure 5.27. - Phase change paint models.

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(b) Model no. 64 installed in the LaRC 31-in. Continuous Flow Hypersonic Tunnel.

Figure 5.27. - Concluded.

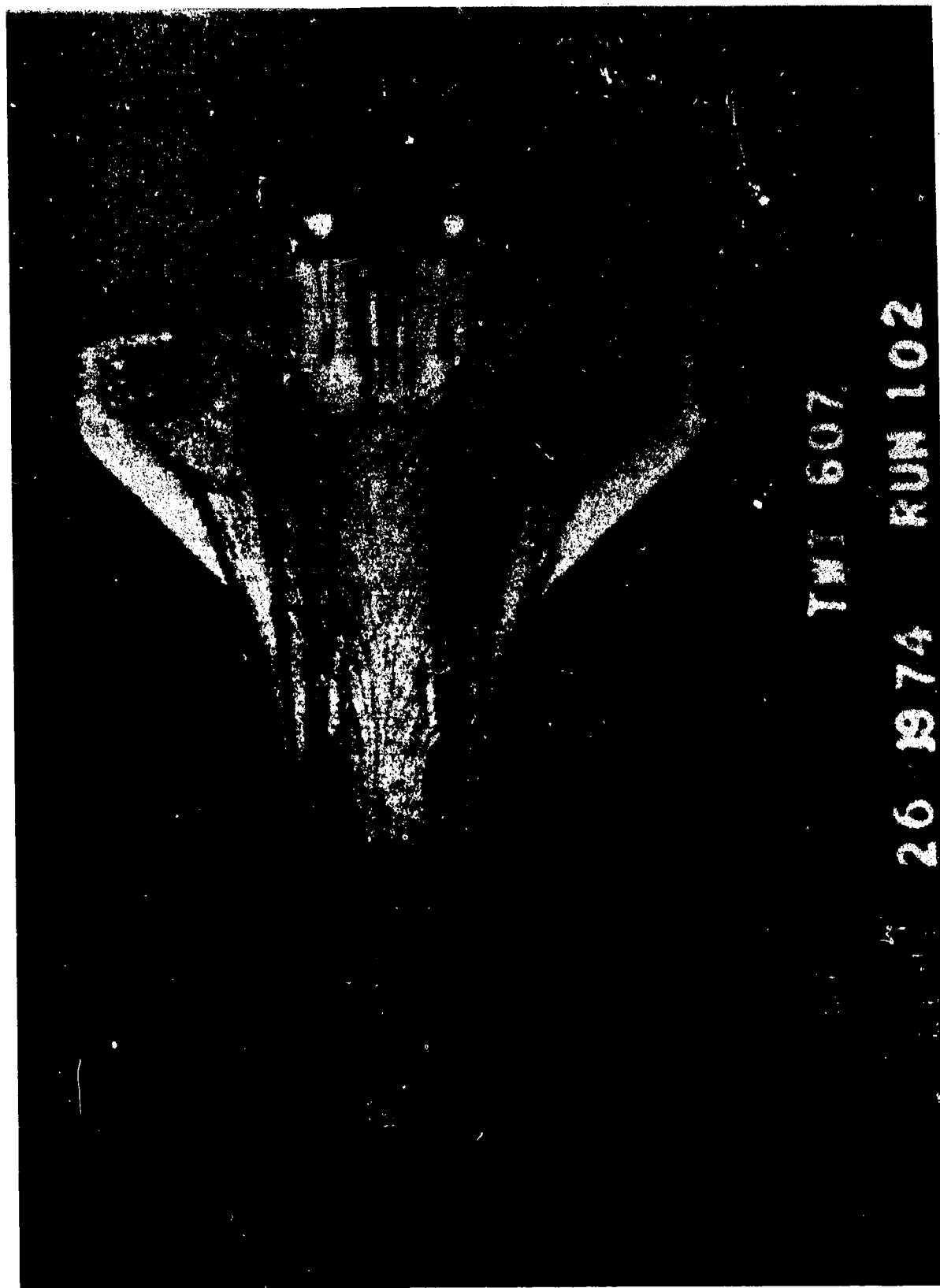
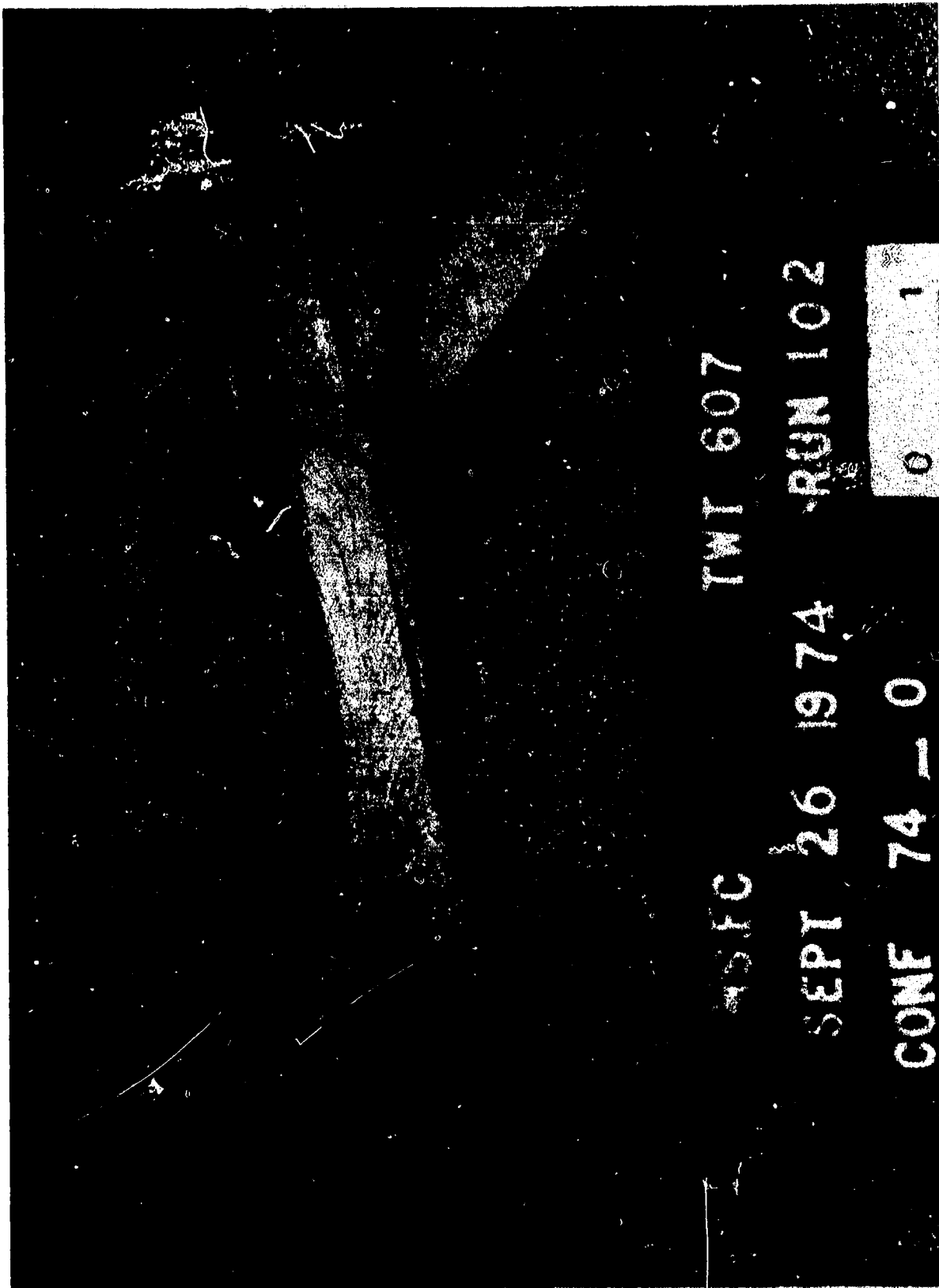


Figure 5.28. - Oil flow photographs; model no. 74 tested in the MSFC 14-in. Trisonic Wind Tunnel.

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(b) Side view.

Figure 5.28. - Concluded.

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(a) Model no. 22 installed in the ARC 3.5-ft Hypersonic Tunnel.

Figure 5.29. - Orbiter thermocouple models.

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(b) Model no. 50 showing thermocouple locations.

Figure 5.29. - Continued.

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(c) Model no. 83 (forebody) installed in the AEDC-B Tunnel.

Figure 5.29. - Concluded.



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Figure 5.30. - Heating test model no. 29 with probe for tunnel conditions in the AEDC-F Tunnel.

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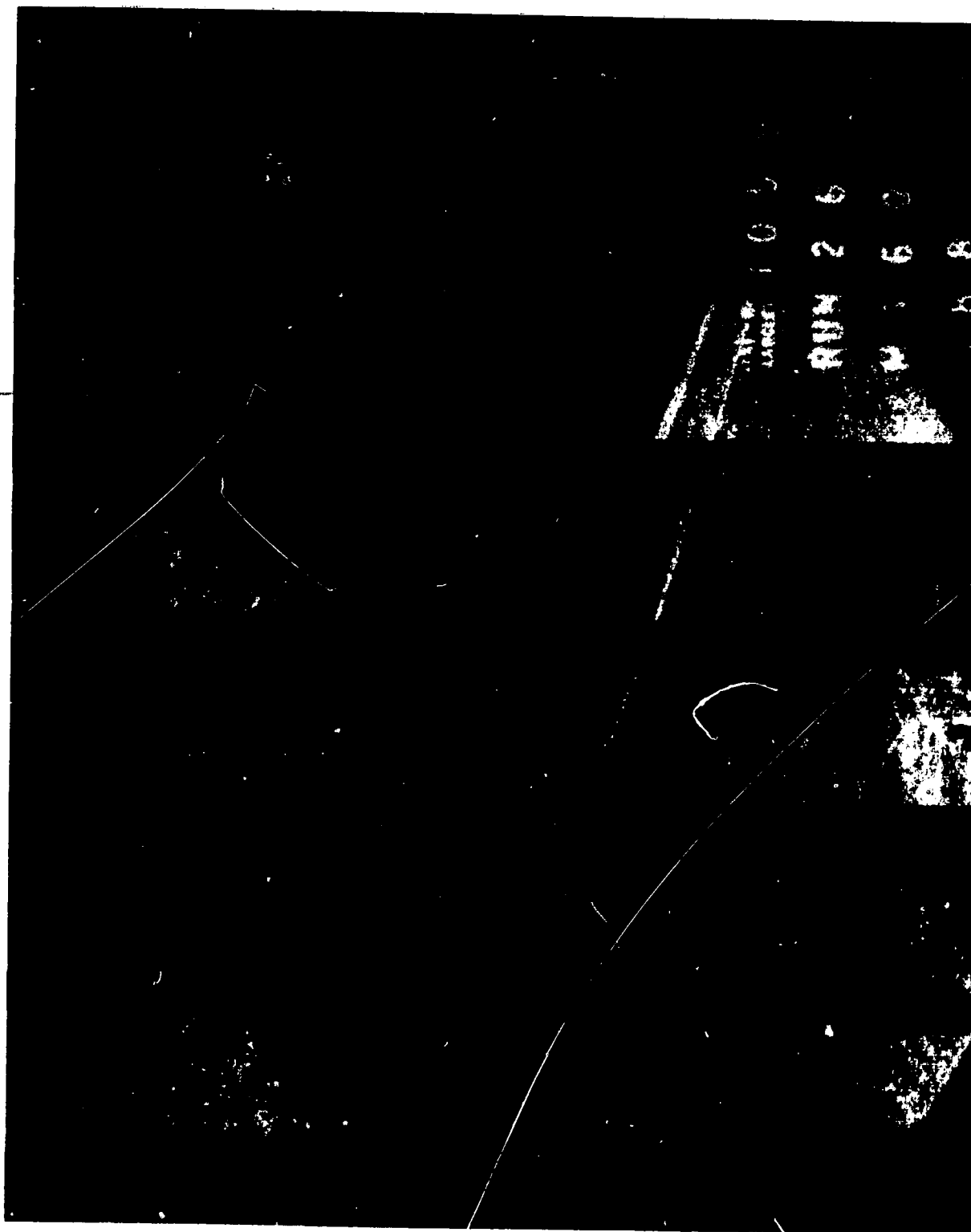
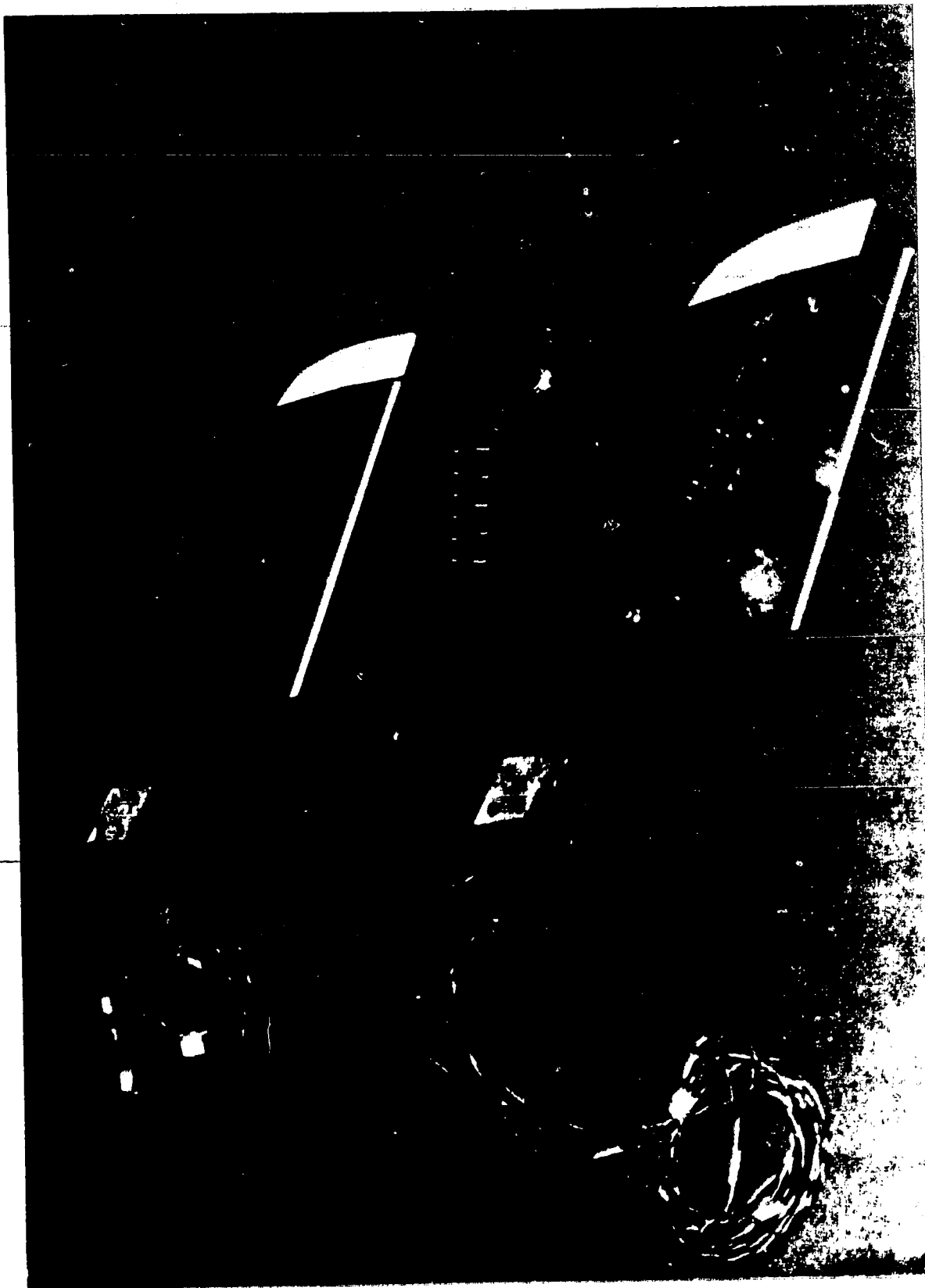


Figure 5.31. - Schlieren photo of model no. 26 in the LaRC Unitary Plan Wind Tunnel.

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(a) Tail instrumentation.

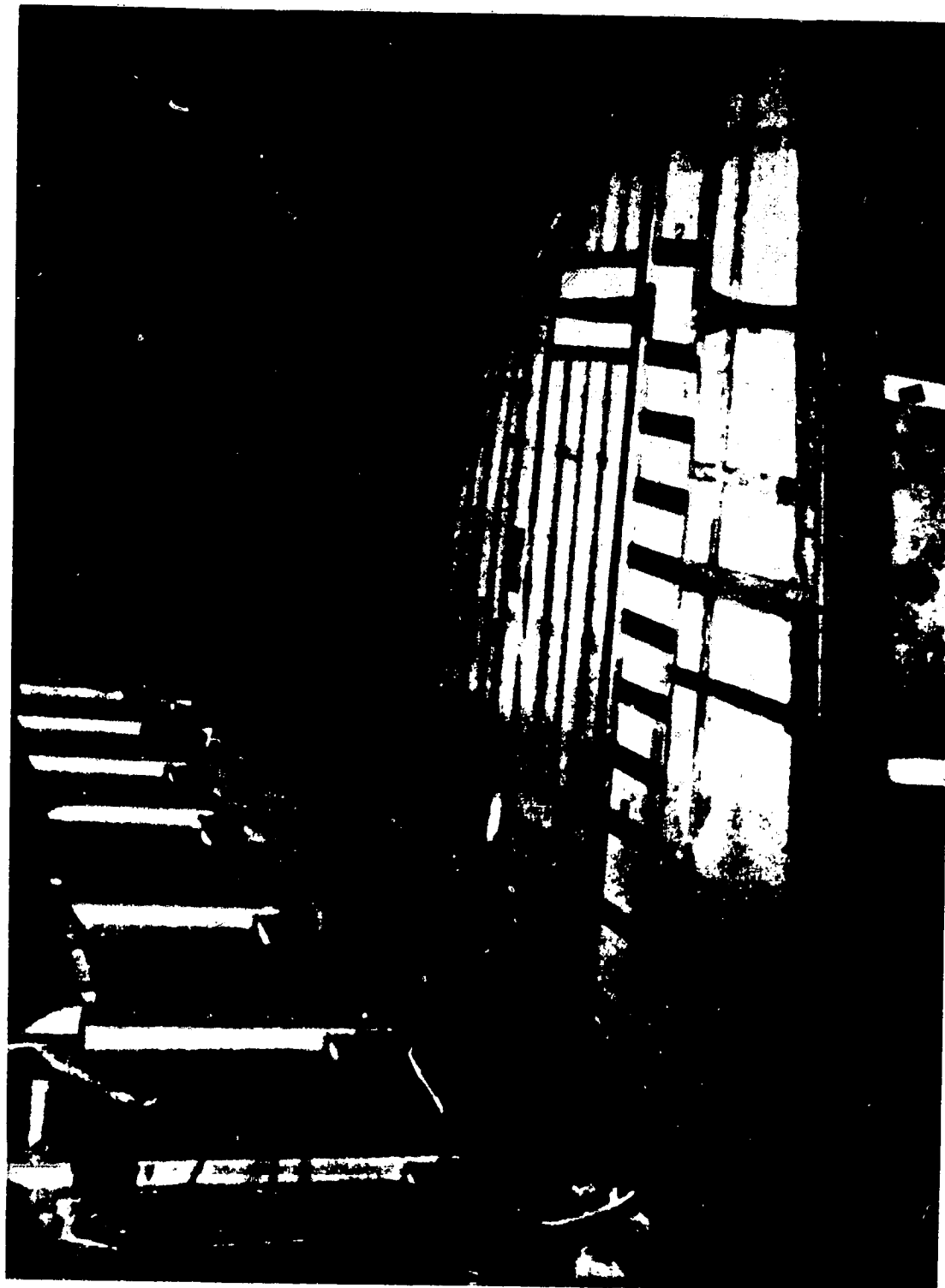
Figure 5.32. - Flutter test of the vertical tail model no. 24 in the LaRC 26-in. Transonic Blowdown Tunnel.

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(b) Model assembled in tunnel.

Figure 5.32. - Concluded.



(a) Wing model with skin removed.

Figure 5.33. - Large-scale model tests for flutter boundaries; model no. 59 in the LaRC 16-ft Transonic Dynamics Tunnel.

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(b) Wing model installed.  
Figure 5.33. - Continued.

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(c) Vertical tail model with skin removed.

Figure 5.33. - Continued.

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(d) Vertical tail model installed.

Figure 5.33. - Concluded.



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Figure 5.34. - Structural test panel with TPS tiles; model no. 81 in the ARC  
11-ft Transonic Tunnel.

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(a) Orbiter tailcone configuration.

Figure 5.35. - Mated carrier model no. 48 installed in the ARC 14-ft Transonic Wind Tunnel.

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(b) Orbiter tailcone off configuration.

Figure 5.35 - Concluded.

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Figure 5.36. - Shuttle Carrier Aircraft separation test; model no. 48 in the  
ARC 14-ft Transonic Wind Tunnel.

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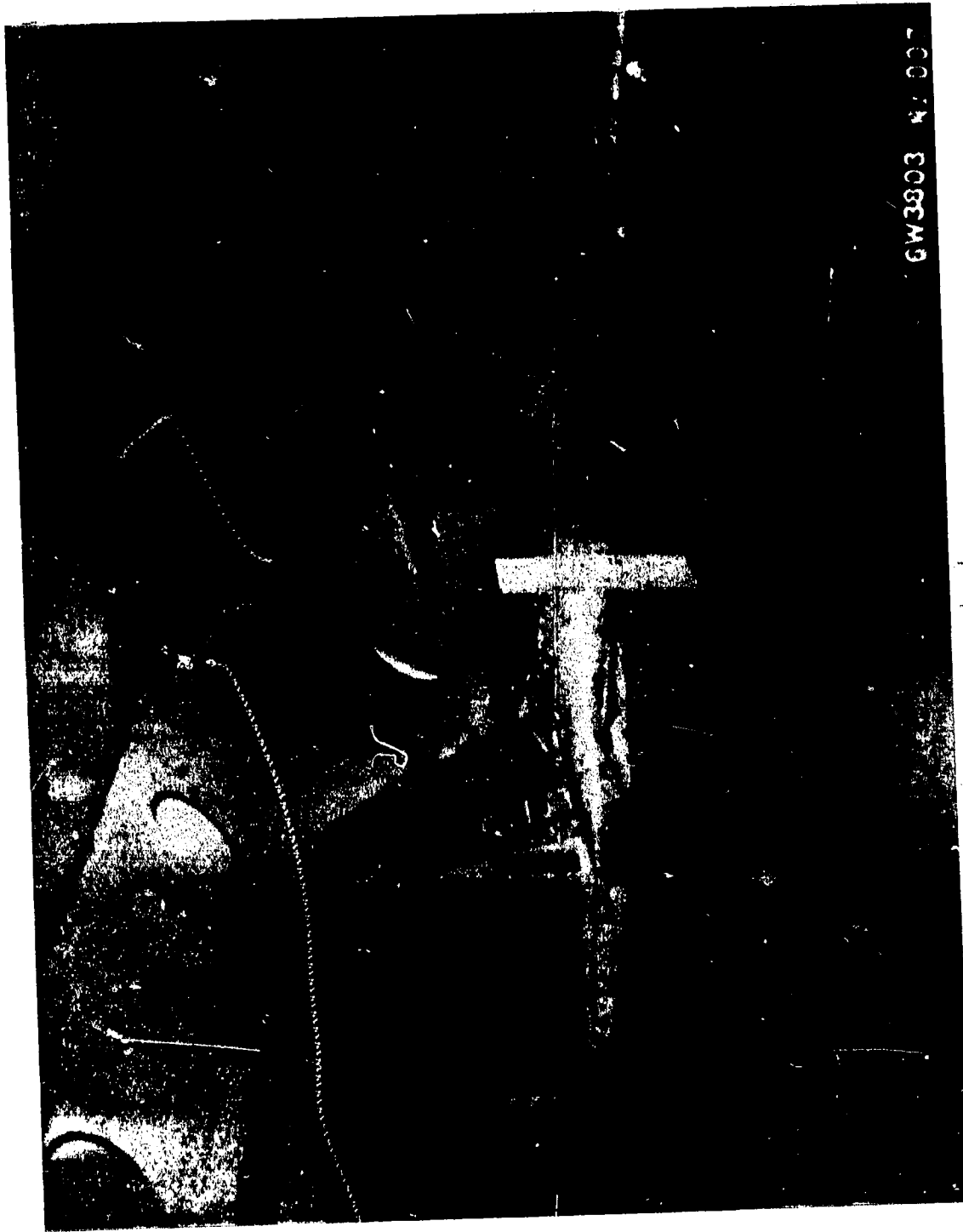
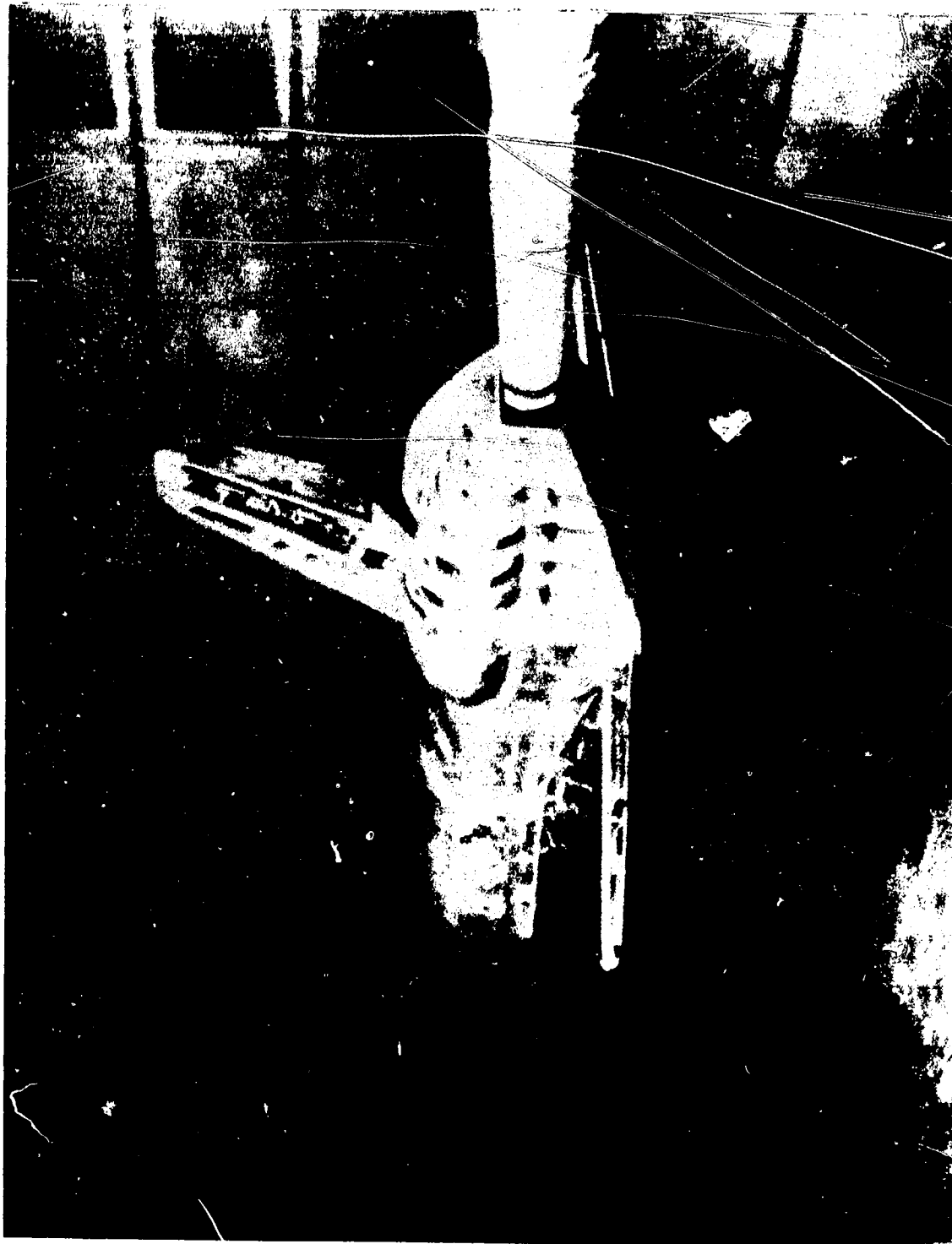


Figure 5.37. - Aeroelastic (tail) buffet test; model no.8 in the University of Washington Low-Speed Wind Tunnel.

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(a) Model no. 47 in the Ames 11-ft Transonic Wind Tunnel; straight sting in Orbiter base.

Figure 5.38. - Tailcone testing for support interference.



(b) Model no. 47 in the Boeing Transonic Wind Tunnel; vertical  
tail blade support.

Figure 5.38. - Continued.



(c) Model no. 47 in the Boeing Transonic Wind Tunnel; bottom blade support with dummy vertical tail blade support.

Figure 5.38 - Concluded.



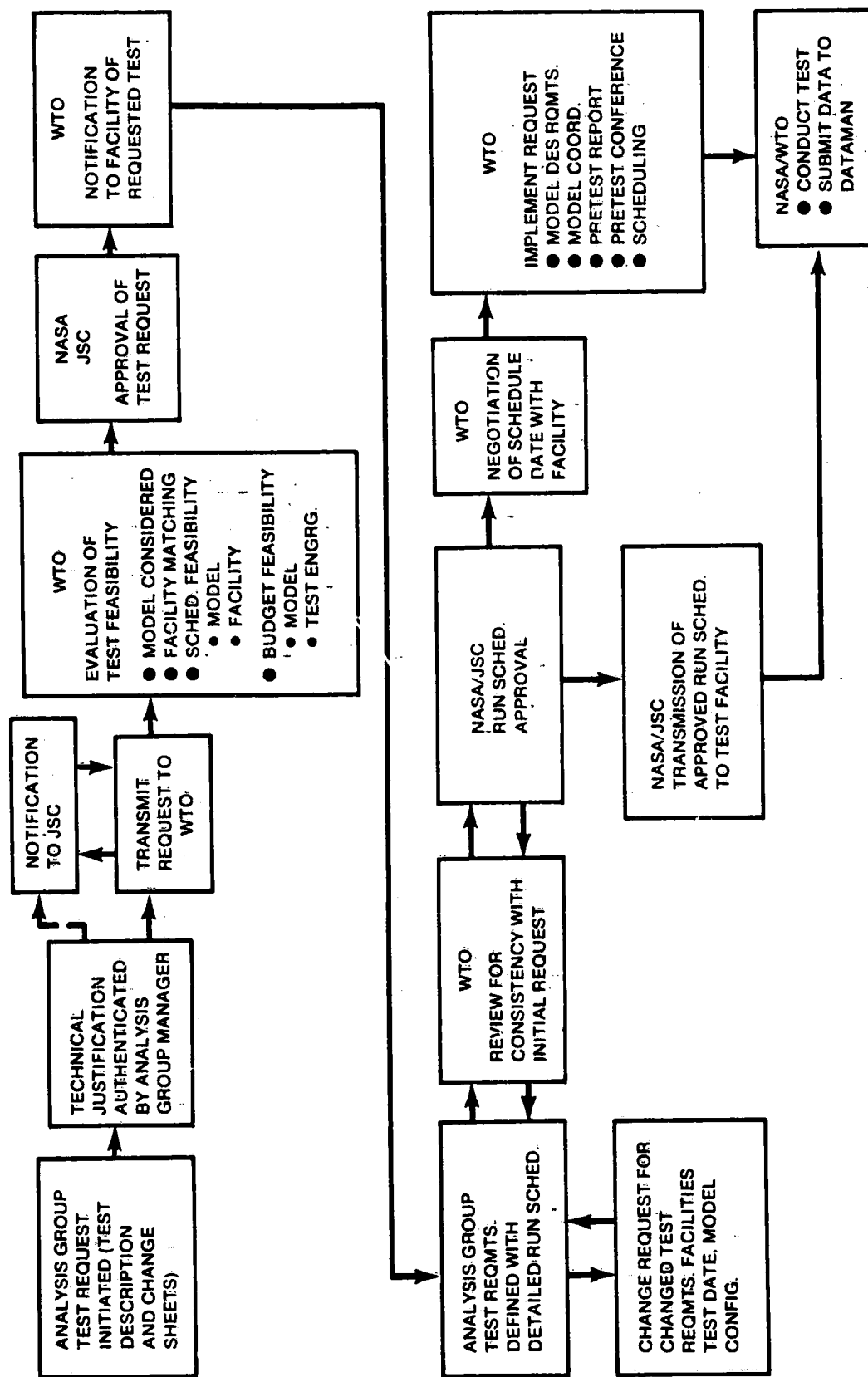


Figure 6.1. - Wind tunnel program management; test approval cycle.

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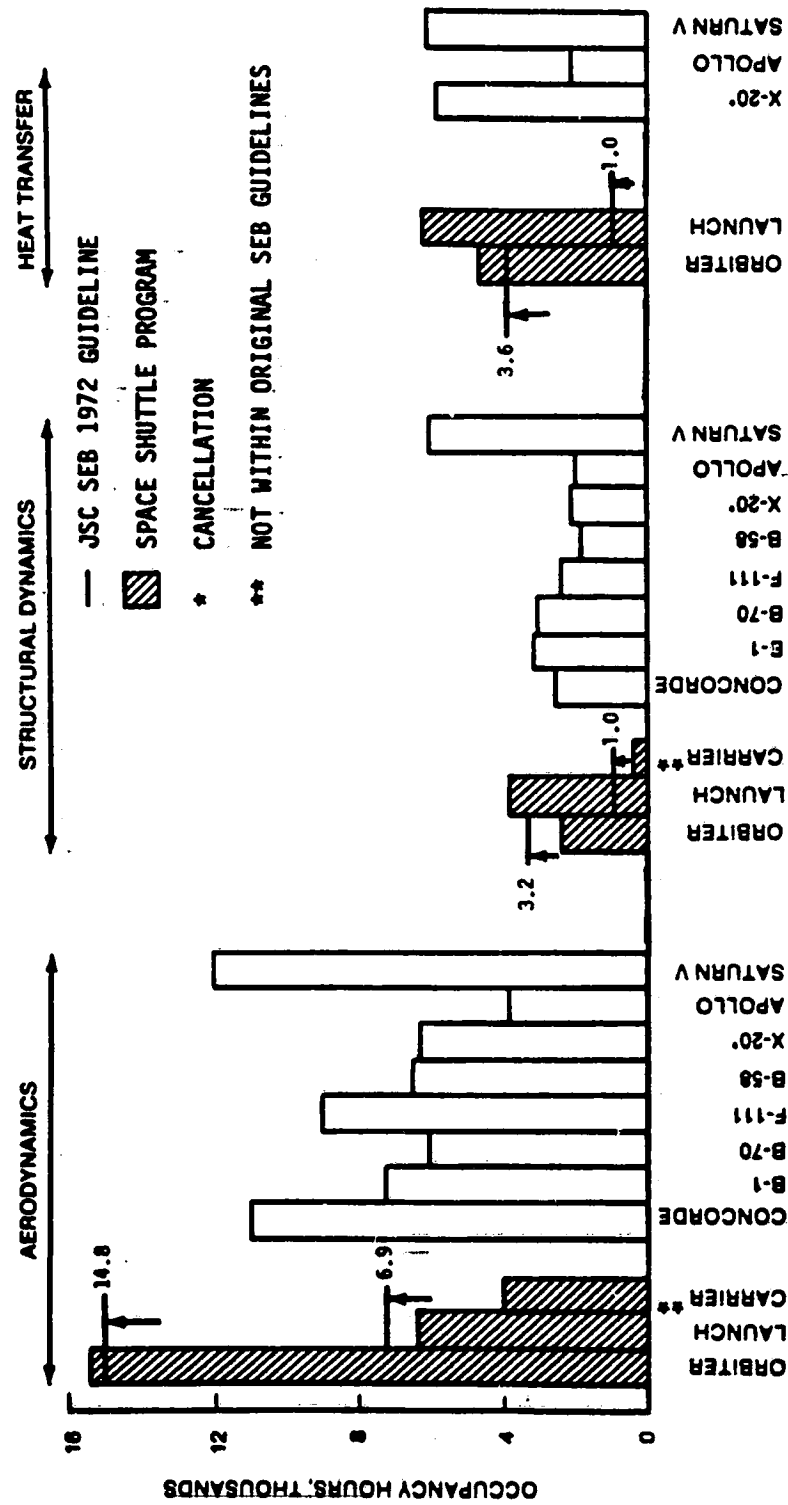
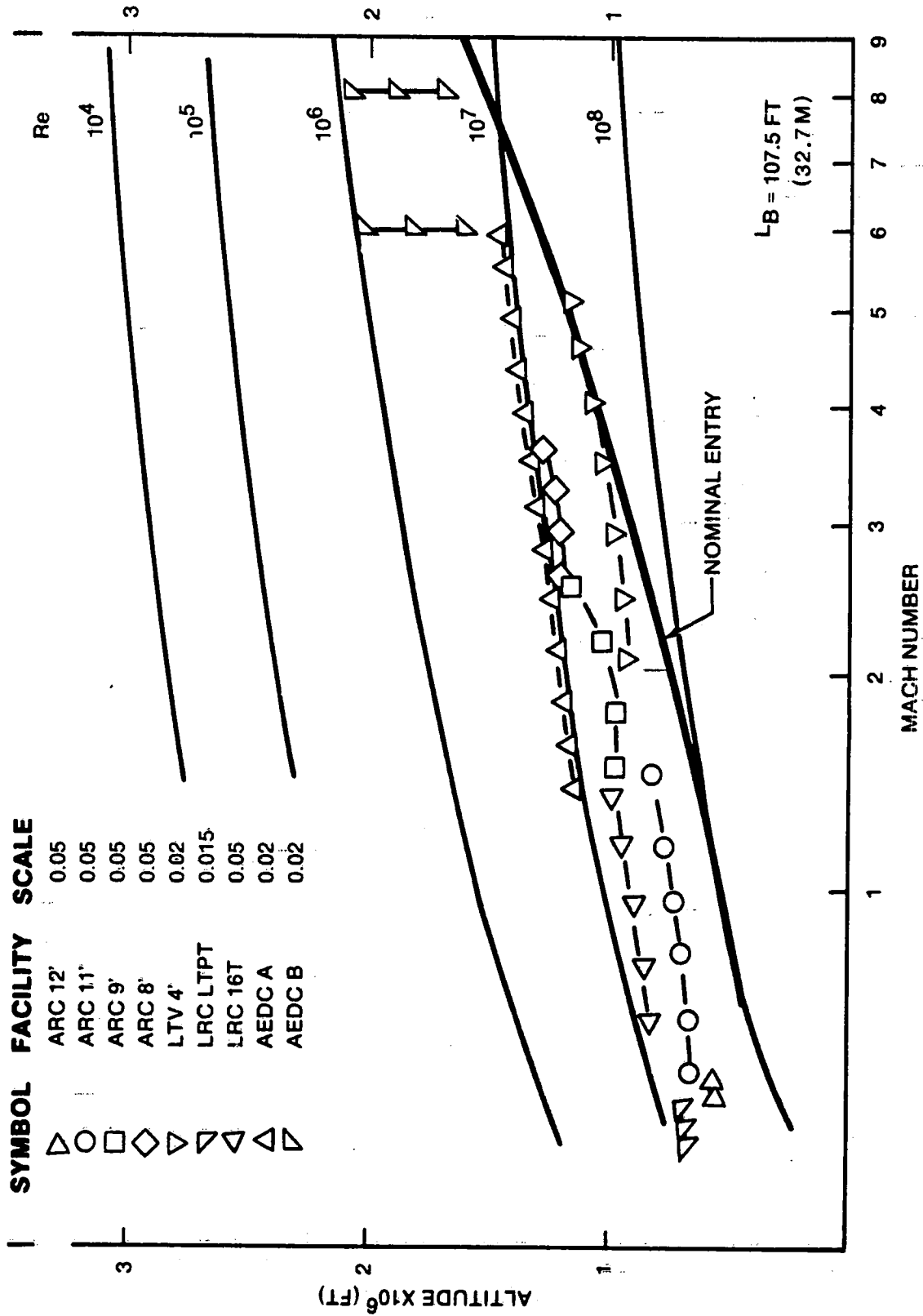


Figure 7.1. - Space Shuttle wind tunnel program comparison.



(a) Entry.

Figure 8.1. - Facility Reynolds number simulation capability.



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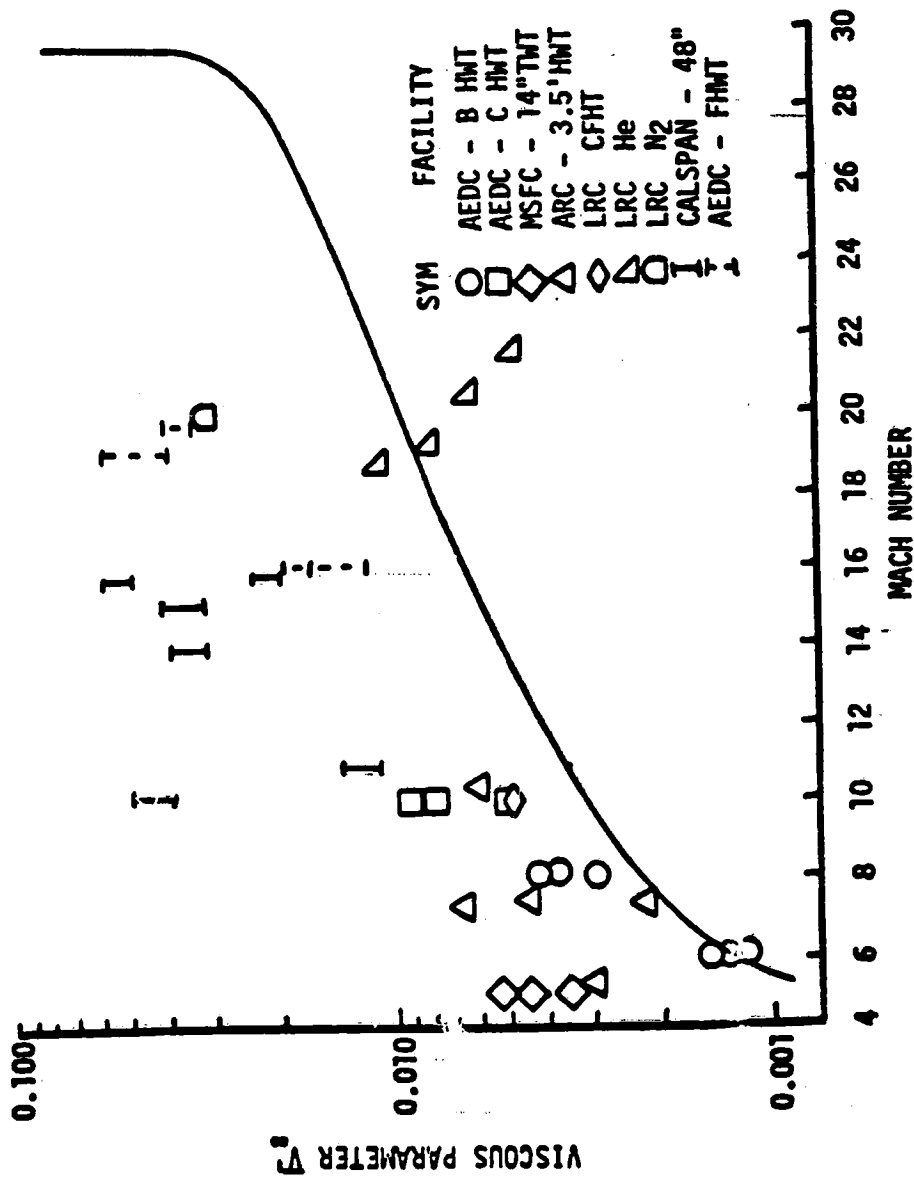


Figure 8.2. - Facility simulation capability in the hypersonic viscous regime.

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(a) Model 11 (.040-scale) installed in the ARC 9 by 7-ft Wind Tunnel.

Figure 9.1. - Contrast of model fidelity.

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(b) Model 84 (.035-scale) installed in the ARC 9 by 7-ft Wind Tunnel.

Figure 9.1. - Continued.

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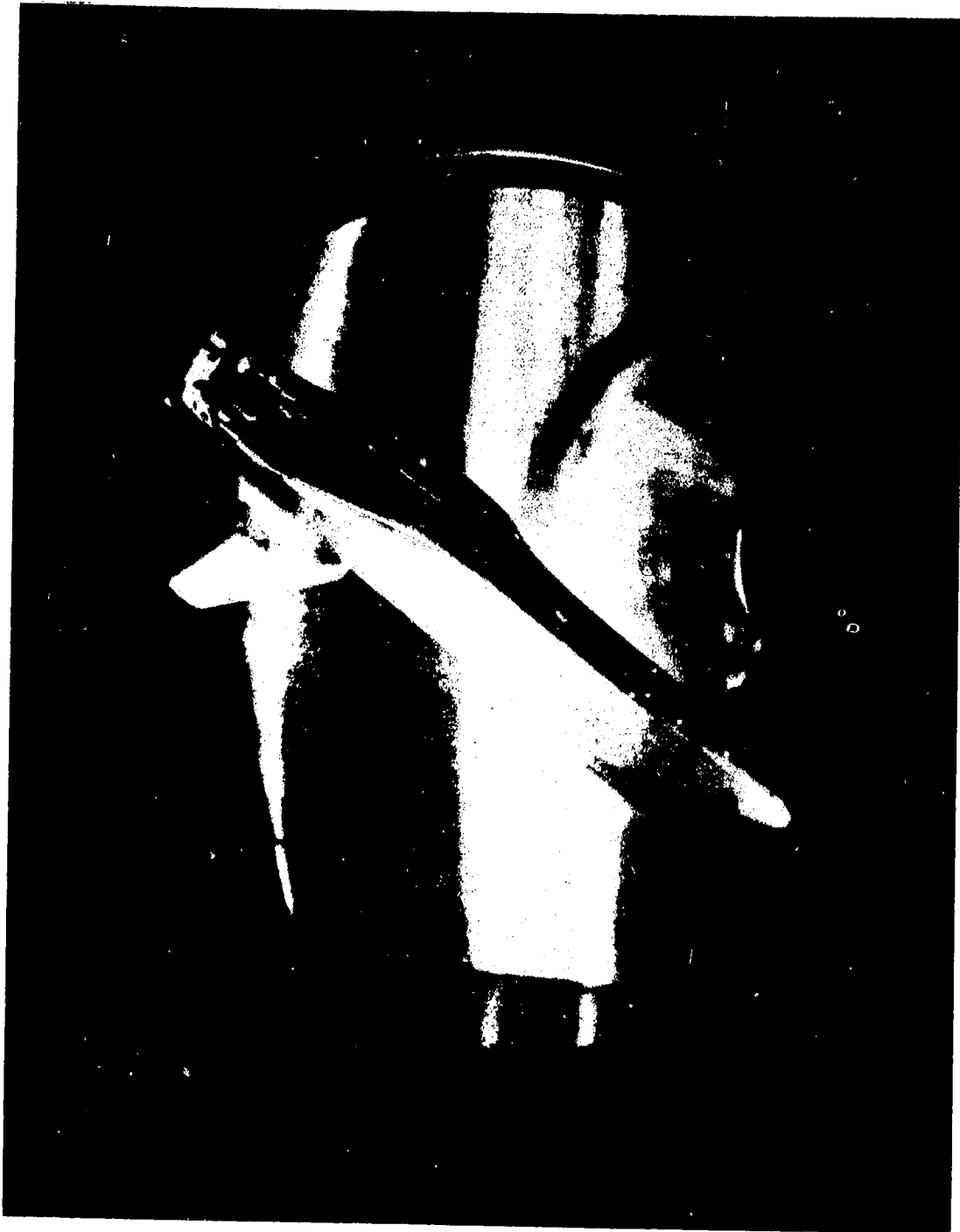


(c) Model 84 (.035-scale) installed in the LeRC 10 by 10-ft Wind Tunnel.

Figure 9.1. - Continued.



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(d) Model 84 (.035-scale) installed in the LeRC 10 by 10-ft Wind Tunnel.

Figure 9.1 - Concluded.

## APPENDIX A

### TABLES OF WIND TUNNEL TESTING BY TEST NUMBER, BY TEST FACILITY, AND BY MODEL NUMBER.

The test number definition, model reference (configuration) definition, and model ID listings are presented in the Chapters VII, III and IX respectively. A summary of the test number definitions is presented here for convenience:

- First letter - O - Orbiter  
              - I - Integrated Vehicle  
              - C - Carrier Aircraft  
              - T - External Tank  
              - S - Solid Rocket Booster  
              - L - Langley Research Center  
              - A - Ames Research Center  
              - M - Johnson Space Center (formerly the Manned Spacecraft Center)  
              - F - Marshall Space Flight Center
- Second Letter - A - Aerodynamics Tests  
               - H - Heating Tests  
               - S - Structural Dynamics Tests
- Number - Chronological Test Order

- TABLE A1 - WIND TUNNEL TESTING BY TEST NUMBER - AERODYNAMIC TESTS  
TABLE A2 - WIND TUNNEL TESTING BY TEST NUMBER - HEATING TESTS  
TABLE A3 - WIND TUNNEL TESTING BY TEST NUMBER - STRUCTURAL DYNAMICS TESTS  
TABLE A4 - WIND TUNNEL TESTING BY FACILITY - NASA COMPLEXES  
TABLE A5 - WIND TUNNEL TESTING BY FACILITY - OTHER GOVERNMENT COMPLEXES  
TABLE A6 - WIND TUNNEL TESTING BY FACILITY - PRIVATE FACILITY COMPLEXES  
TABLE A7 - WIND TUNNEL TESTING BY FACILITY - SPACE SHUTTLE PRIME CONTRACTOR  
          COMPLEX  
TABLE A8 - WIND TUNNEL TESTING BY FACILITY - UNIVERSITY FACILITIES  
TABLE A9 - WIND TUNNEL TESTING BY MODEL

**APPENDIX A**

**TABLE A1 - WIND TUNNEL TESTING BY TEST NUMBER - AERODYNAMIC TESTS**

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PHASE C/D SSV WIND TUNNEL TESTING PER TEST NUMBER

| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.          | MODEL | (ID)  | FACILITY                     | WIND | TUNNEL | NO.  | DOCUMENT NO. | STATUS    |
|----------|---------------------|----------------|---------------|------|---------------|-------|-------|------------------------------|------|--------|------|--------------|-----------|
| OA1      | 9*27*72 - 10*07*72  |                | 60/ 96        | 206  | ATP           |       | ( 1)  | MSFC 14-IN TRANSONIC         |      |        | 555  | 2005         | PUBLISHED |
| OA2      | 9*25*72 - 10*03*72  |                | 80/ 69        | 183  | ATP           |       | ( 2)  | RI 7X11-FT LOW SPEED         |      |        | 689  | 2016         | PUBLISHED |
| OA3      | 10*24*72 - 11*10*72 |                | 200/ 320      | 214  | ATP           |       | ( 6)  | ARC 6X6-FT SUPERSONIC        |      |        | 650  | 2009         | PUBLISHED |
| OA4      | 10* 2*72 - 10*17*72 |                | 200/ 176      | 54   | ATP           |       | ( 6)  | ARC 3.5-FT HYPERSONIC        |      |        | 147  | 2007         | PUBLISHED |
| OA5      | 10*11*72 - 10*19*72 |                | 60/ 65        | 88   | ATP-MODIF     |       | ( 2)  | RI 7X11-FT LOW SPEED         |      |        | 690  | 2017         | PUBLISHED |
| OA6      | 11*16*72 - 12*06*72 |                | 60/ 177       | 218  | PRR           |       | ( 2)  | RI 7X11-FT LOW SPEED         |      |        | 694  | 2019         | PUBLISHED |
| OA7      | 11*27*72 - 12*08*72 |                | 100/ 100      | 110  | ATP           |       | ( 6)  | LARC UNITARY PLAN            |      |        | 1007 | 2014         | PUBLISHED |
| OA9      | 12*18*72 - 01*09*73 |                | 60/ 158       | 192  | 2A/089B       |       | ( 2)  | RI 7X11-FT LOW SPEED         |      |        | 696  | 2020         | PUBLISHED |
| OA10     | 1*30*73 - 02*16*73  |                | 120/ 109      | 300  | 2A/089B       |       | ( 2)  | RI 7X11-FT LOW SPEED         |      |        | 698  | 2022         | PUBLISHED |
| OA11A    | 4* 9*73 - 04*17*73  |                | 144/ 176      | 62   | 2A/089B       |       | ( 18) | ARC 3.5-FT HYPERSONIC        |      |        | 157  | 2044         | PUBLISHED |
| OA11B    | 5*14*73 - 05*25*73  |                | 140/ 160      | 70   | 2A/089B       |       | ( 18) | ARC 3.5-FT HYPERSONIC        |      |        | 160  | 2059         | PUBLISHED |
| OA12A    | 4*12*73 - 04*23*73  |                | 90/ 103       | 98   | 2A/089B       |       | ( 17) | ARC 11-FT TRANSONIC          |      |        | 707  | 2032         | PUBLISHED |
| OA12C    | 5* 2*73 - 05*10*73  |                | 60/ 60        | 46   | 2A/089B       |       | ( 17) | ARC 8X7-FT SUPERSONIC        |      |        | 707  | 2032         | PUBLISHED |
| OA14     | 2*28*73 - 03*15*73  |                | 100/ 151      | 196  | 2A/089B       |       | ( 2)  | RI 7X11-FT LOW SPEED         |      |        | 700  | 2030         | PUBLISHED |
| OA16     | 3*19*73 - 04*17*73  |                | 130/ 320      | 475  | 2A/089B       |       | ( 2)  | RI 7X11-FT LOW SPEED         |      |        | 701  | 2038         | PUBLISHED |
| OA17-1   | 6*18*73 - 07*06*73  |                | 60/ 124       | 65   | 3/139B        |       | ( 42) | LARC LOW TURBULANCE PRESSURE |      |        | 138  | 2058         | PUBLISHED |
| OA17-2   | 6*18*73 - 07*06*73  |                | 20/ 100       | 55   | 2A/089B       |       | ( 18) | LARC LOW TURBULANCE PRESSURE |      |        | 138  | 2058         | PUBLISHED |
| OA18     | 5* 8*73 - 05*17*73  |                | 100/ 114      | 189  | 3/139B        |       | ( 43) | RI 7X11-FT LOW SPEED         |      |        | 704  | 2045         | PUBLISHED |
| OA20A    | 9*10*73 - 09*13*73  |                | 50/ 40        | 29   | 4/140A.B      |       | ( 49) | LARC UNITARY PLAN            |      |        | 1057 | 2083         | PUBLISHED |
| OA20B    | 4* 8*74 - 04*12*74  |                | 50/ 43        | 30   | 4/140A.B      |       | ( 49) | LARC UNITARY PLAN            |      |        | 1097 | 2163         | PUBLISHED |
| OA20C    | 11* 5*73 - 11*08*73 |                | 40/ 35        | 19   | 4/140A.B      |       | ( 49) | LARC UNITARY PLAN            |      |        | 1057 | 2147         | PUBLISHED |
| OA21A    | 5*21*73 - 06*04*73  |                | 100/ 72       | 348  | 3/139B        |       | ( 43) | RI 7X11-FT LOW SPEED         |      |        | 705  | 2053         | PUBLISHED |
| OA21B    | 6*21*73 - 06*25*73  |                | 40/ 55        | 99   | 3/139B W/CANS |       | ( 43) | RI 7X11-FT LOW SPEED         |      |        | 705  | 2053         | PUBLISHED |
| OA22A    | 9*12*73 - 09*14*73  |                | 20/ 21        | 24   | 4/140A.B      |       | ( 47) | ARC 11-FT TRANSONIC          |      |        | 716  | 2130         | PUBLISHED |
| OA22B    | 9*19*73 - 09*20*73  |                | 40/ 31        | 30   | 4/140A.B      |       | ( 47) | ARC 9X7-FT SUPERSONIC        |      |        | 716  | 2131         | PUBLISHED |

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| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.          | MODEL | (ID)  | FACILITY                     | WIND | TUNNEL | NO.  | DOCUMENT NO. | ST ATUS   |
|----------|---------------------|----------------|---------------|------|---------------|-------|-------|------------------------------|------|--------|------|--------------|-----------|
| OA23-1   | 7*19*73 - 07*31*73  |                | 80/ 54        | 23   | 3A/140A       |       | ( 49) | ARC 3.5-FT HYPERSONIC        |      |        | 168  | 2071         | PUBLISHED |
| OA23-2   | 7*26*73 - 07*31*73  |                | 80/ 90        | 39   | 3/139B        |       | ( 32) | ARC 3.5-FT HYPERSONIC        |      |        | 168  | 2071         | PUBLISHED |
| OA25     | 9*14*73 - 09*21*73  |                | 80/ 88        | 156  | 4/140A.B      |       | ( 49) | LARC 8-FT TRANSONIC PRESSURE |      |        | 661  | 2089         | PUBLISHED |
| OA26     | 11*17*73 - 12*04*73 |                | 64/ 140       | 27   | 4/140A.B      |       | ( 36) | ARC 3.5-FT HYPERSONIC        |      |        | 180  | 2124         | PUBLISHED |
| OA36     | 2*25*74 - 03*01*74  |                | 80/ 80        | 38   | 4/140A.B      |       | ( 49) | ARC 3.5-FT HYPERSONIC        |      |        | 187  | 2162         | PUBLISHED |
| OA37     | 1* 7*74 - 01*25*74  |                | 80/ 103       | 112  | 4/140A.B      |       | ( 47) | RI 7X11-FT LOW SPEED         |      |        | 719  | 2140         | PUBLISHED |
| OA43     | 4*18*73 - 05*04*73  |                | 128/ 160      | 137  | 2A/089B       |       | ( 18) | ARC 6X6-FT SUPERSONIC        |      |        | 706  | 2050         | PUBLISHED |
| OA44-1   | 6* 1*73 - 06*08*73  |                | 40/ 54        | 47   | 2A/089B       |       | ( 18) | LARC UNITARY PLAN            |      |        | 1035 | 2057         | PUBLISHED |
| OA44-2   | 6*11*73 - 06*15*73  |                | 40/ 54        | 36   | 3/139B        |       | ( 42) | LARC UNITARY PLAN            |      |        | 1035 | 2057         | PUBLISHED |
| OA45     | 2*21*73 - 02*28*73  |                | 80/ 86        | 171  | 2A/089B       |       | ( 2)  | RI 7X11-FT LOW SPEED         |      |        | 699  | 2021         | PUBLISHED |
| OA47     | 3*28*73 - 04*05*73  |                | 116/ 116      | 245  | 2A/089B       |       | ( 13) | MSFC 14-IN TRANSONIC         |      |        | 568  | 2029         | PUBLISHED |
| OA48     | 5*25*73 - 6*11*73   |                | 100/ 166      | 364  | 3/139B.W/CANS |       | ( 34) | MSFC 14-IN TRANSONIC         |      |        | 574  | 2055         | PUBLISHED |
| OA49     | 10*18*73 - 11*09*73 |                | 198/ 170      | 415  | 4/140A.B      |       | ( 34) | MSFC 14-IN TRANSONIC         |      |        | 581  | 2095         | PUBLISHED |
| OA53A    | 11*19*73 - 11*27*73 |                | 128/ 128      | 267  | 4/140A.B      |       | ( 47) | ARC 11-FT TRANSONIC          |      |        | 747  | 2128         | PUBLISHED |
| OA53B    | 11*12*73 - 11*16*73 |                | 60/ 160       | 103  | 4/140A.B      |       | ( 47) | ARC 9X7-FT SUPERSONIC        |      |        | 747  | 2178         | PUBLISHED |
| OA53C    | 11*28*73 - 12*06*73 |                | 60/ 159       | 159  | 4/140A.B      |       | ( 47) | ARC 8X7-FT SUPERSONIC        |      |        | 747  | 2185         | PUBLISHED |
| OA57A    | 8* 6*73 - 8*17*73   |                | 100/ 103      | 61   | 2A/089B       |       | ( 2)  | RI 7X11-FT LOW SPEED         |      |        | 709  | 2074         | PUBLISHED |
| OA57B    | 9*15*73 - 09*17*73  |                | 40/ 123       | 72   | 2A/089B       |       | ( 2)  | RI 7X11-FT LOW SPEED         |      |        | 713  | 2080         | PUBLISHED |
| OA58     | 6* 4*73 - 06*18*73  |                | 80/ 76        | 38   | 3/139B        |       | ( 42) | ARC 3.5-FT HYPERSONIC        |      |        | 163  | 2060         | PUBLISHED |
| OA59     | 3*13*74 - 3*21*74   |                | 120/ 293      | 150  | 4/140A.B      |       | ( 49) | ARC 6X6-FT SUPERSONIC        |      |        | 709  | 2159         | PUBLISHED |
| OA62A    | 10* 5*73 - 10*23*73 |                | 120/ 195      | 98   | 4/140A.B      |       | ( 43) | RI 7X11-FT LOW SPEED         |      |        | 715  | 2097         | PUBLISHED |
| OA62B    | 11*13*73 - 12*06*73 |                | 100/ 240      | 448  | 4/140A.B      |       | ( 43) | RI 7X11-FT LOW SPEED         |      |        | 717  | 2104         | PUBLISHED |
| OA63     | 9*25*73 - 9*28*73   |                | 64/ 80        | 98   | 4/140A.B      |       | ( 36) | ARC 6X6-FT SUPERSONIC        |      |        | 630  | 2077         | PUBLISHED |
| OA64     | 10*30*73 - 10*31*73 |                | 50/ 30        | 28   | 4/140A.B      |       | ( 36) | LARC UNITARY PLAN            |      |        | 1063 | 2108         | PUBLISHED |
| OA66     | 6*20*73 - 6*29*73   |                | 60/ 60        | 44   | 3A/140A       |       | ( 49) | RI 7-FT TRISONIC             |      |        | 276  | 2061         | PUBLISHED |

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| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | MODEL REF.    | (ID)  | FACILITY                  | WIND | TUNNEL | NO.  | DOCUMENT NO. | STATUS    |
|----------|---------------------|----------------|---------------|------|---------------|-------|---------------------------|------|--------|------|--------------|-----------|
| 0A69     | 8*28*73 - 09*01*73  |                | 80/ 71        | 205  | 3/139B        | ( 43) | RI 7X11-FT LOW SPEED      |      |        | 711  | 2081         | PUBLISHED |
| 0A70     | 7*20*73 - 7*26*73   |                | 30/ 40        | 66   | 3/139B        | ( 42) | LARC UNITARY PLAN         |      |        | 1043 | 2073         | PUBLISHED |
| 0A71A    | 7*27*73 - 08*03*73  |                | 50/ 62        | 52   | 2A/089B       | ( 2)  | RI 7X11-FT LOW SPEED      |      |        | 708  | 2068         | PUBLISHED |
| 0A71C    | 9* 4*73 - 09*14*73  |                | 100/ 139      | 71   | 3/139B        | ( 43) | RI 7X11-FT LOW SPEED      |      |        | 712  | 2086         | PUBLISHED |
| 0A72     | 7*30*73 - 08*24*73  |                | 40/ 176       | 42   | 3A/139B       | ( 34) | LARC 22-IN HELIUM         |      |        | 415  | 2092         | PUBLISHED |
| 0A73     | 7*11*73 - 7*18*73   |                | 60/ 96        | 37   | 3/139B        | ( 42) | ARC 3.5-FT HYPERSONIC     |      |        | 167  | 2082         | PUBLISHED |
| 0A77     | 11*27*73 - 12*01*73 |                | 40/ 32        | 124  | 4/140A,B      | ( 49) | AEDC B / HYPERSONIC       |      |        | 474  | 2134         | PUBLISHED |
| 0A78     | 12* 3*73 - 12*04*73 |                | 20/ 16        | 56   | 4/140A,B      | ( 49) | AEDC C / HYPERSONIC       |      |        | 474  | 2134         | PUBLISHED |
| 0A79     | 8* 1*74 - 08*03*74  |                | 24/ 23        | 79   | 4/140A,B(MOD) | ( 49) | AEDC B / HYPERSONIC       |      |        | 71A  | 2196         | PUBLISHED |
| 0A81     | 11*20*73 - 12*28*73 |                | 104/ 94       | 48   | 4/140A,B      | ( 51) | AEDC F / HYPERSONIC       |      |        | 489  | 2152         | PUBLISHED |
| 0A82     | 8*12*74 - 08*16*74  |                | 40/ 48        | 96   | 4/140A,B      | ( 32) | LARC 31-IN CONT-FLOW HYP. |      |        | 113  | 2195         | PUBLISHED |
| 0A83     | 5* 8*74 - 05*16*74  |                | 80/ 160       | 34   | 4/140A,B      | ( 36) | ARC 3.5-FT HYPERSONIC     |      |        | 194  | 2177         | PUBLISHED |
| 0A84     | 12*10*73 - 12*14*73 |                | 80/ 115       | 207  | 4/140A,B      | ( 49) | LTV 4X4-FT SUPERSONIC     |      |        | 488  | 2037         | PUBLISHED |
| 0A85     | 10*31*73 - 11*08*73 |                | 50/ 60        | 75   | 3/139B        | ( 32) | LARC 31-IN CONT-FLOW HYP. |      |        | 101  | 2113         | PUBLISHED |
| 0A86     | 10*26*73 - 11*09*73 |                | 80/ 174       | 331  | 4/140A,B      | ( 43) | RI 7X11-FT LOW SPEED      |      |        | 716  | 2114         | PUBLISHED |
| 0A87     | 10*15*73 - 10*23*73 |                | 80/ 80        | 30   | 4/140A,B      | ( 49) | ARC 3.5-FT HYPERSONIC     |      |        | 176  | 2115         | PUBLISHED |
| 0A88     | 12*11*73 - 12*28*73 |                | 60/ 60        | 191  | 4/140A,B      | ( 34) | LARC 22-IN HELIUM         |      |        | 7422 | 2125         | PUBLISHED |
| 0A89     | 7*15*74 - 08*05*74  |                | 60/ 143       | 32   | 5/140C        | ( 74) | LARC HYPERSONIC NITROGEN  |      |        | 30   | 2214         | PUBLISHED |
| 0A90     | 3* 4*74 - 03*06*74  |                | 25/ 40        | 43   | 4/140A,B      | ( 72) | LARC 31-IN CONT-FLOW HYP. |      |        | 110  | 2149         | PUBLISHED |
| 0A91     | 10*26*73 - 11*01*73 |                | 40/ 40        | 38   | 4/140A/B      | ( 49) | RI 7-FT TRISONIC          |      |        | 278  | 2116         | PUBLISHED |
| 0A93     | 11*18*74 - 11*23*74 |                | 80/ 152       | 15   | 4/140A,B      | ( 51) | CALSPAN HYPERSONIC SHOCK  |      |        | 737  | 2238         | PUBLISHED |
| 0A98     | 3*27*74 - 04*03*74  |                | 80/ 128       | 46   | 4/140A/B      | ( 49) | ARC 3.5-FT HYPERSONIC     |      |        | 190  | 2167         | PUBLISHED |
| 0A99     | 3*26*74 - 4*12*74   |                | 50/ 52        | 14   | 3/139B        | ( 21) | LARC 60-FT. VACUUM SPHERE |      |        | 3289 | 2172         | PUBLISHED |
| 0A100    | 5*27*75 - 06*14*75  |                | 240/ 272      | 190  | 0V101(ALT)    | ( 76) | ARC 40X80-FT SUBSONIC     |      |        | 462  | 2261         | PUBLISHED |
| 0A101    | 9*13*77 - 11*11*77  |                | 160/ 160      | 373  | VEH 102       | ( 39) | ARC 12-FT PRESSURE        |      |        | 218  | 2405         | PUBLISHED |

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OF POOR QUALITY

| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | MODEL REF.     | (ID)  | FACILITY   | WIND       | TUNNEL   | NO.     | DOCUMENT NO. | STATUS    |
|----------|---------------------|----------------|---------------|------|----------------|-------|------------|------------|----------|---------|--------------|-----------|
| OA102    | 6*17*74 - 06*18*74  |                | 18/ 18        | 10   | 4/140A,B       | ( 36) | LARC 8-FT  | TRANSONIC  | PRESSURE | 687     | 2229         | PUBLISHED |
| OA105    | 2*20*74 - 2*22*74   |                | 16/ 20        | 50   | 4/140A,B       | ( 32) | LARC 31-IN | CONT-FLOW  | HYP      | 109     | 2137         | PUBLISHED |
| OA106    | 12*17*73 - 12*18*73 |                | 20/ 24        | 18   | 4/140A,B       | ( 67) | LARC 8-FT  | TRANSONIC  | PRESSURE | 668     | 2120         | PUBLISHED |
| OA108    | 6*24*74 - 07*09*74  |                | 80/ 80        | 186  | 5/140C         | ( 74) | MSFC 14-IN | TRANSONIC  |          | 599     | 2190         | PUBLISHED |
| OA109    | 8*26*74 - 08*29*74  |                | 60/ 88        | 32   | 5/140C         | ( 74) | LARC 22-IN | HELIUM     |          | 431     | 2205         | PUBLISHED |
| OA110    | 3*15*74 - 03*20*74  |                | 80/ 48        | 85   | 4/140A,B       | ( 16) | RI 7X11-FT | LOW SPEED  |          | 721     | 2155         | PUBLISHED |
| OA113    | 8*10*74 - 10*04*74  |                | 24/ 336       | 108  | 4/140A,B       | ( 51) | CALSPAN    | HYPERSONIC | SHOCK    | 184-220 | 2234         | PUBLISHED |
| OA115A   | 7*29*74 - 07*31*74  |                | 24/ 28        | 82   | 4/140A,B(MOD)  | ( 49) | AEDC A /   | SUPERSONIC |          | 71A     | 2198         | PUBLISHED |
| OA116    | 6*10*74 - 06*14*74  |                | 80/ 80        | 81   | 4/140A,B       | ( 49) | LARC 8-FT  | TRANSONIC  | PRESSURE | 686     | 2186         | PUBLISHED |
| OA118    | 4*24*74 - 04*26*74  |                | 48/ 40        | 54   | 4/140A,B       | ( 43) | RI 7X11-FT | LOW SPEED  |          | 724     | 2139         | PUBLISHED |
| OA119A   | 6*17*74 - 06*25*74  |                | 20/ 45        | 45   | 4/140A,B       | ( 16) | RI 7X11-FT | LOW SPEED  |          | 726     | 2187         | PUBLISHED |
| OA119B   | 8*22*74 - 09*06*74  |                | 60/ 100       | 213  | 4/140A,B       | ( 16) | RI 7X11-FT | LOW SPEED  |          | 730     | 2203         | PUBLISHED |
| OA123    | 9* 6*74 - 09*10*74  |                | 40/ 47        | 141  | 4/140A,B (ALT) | ( 43) | RI 7X11-FT | LOW SPEED  |          | 731     | 2202         | PUBLISHED |
| OA124    | 10*14*74 - 10*23*74 |                | 60/ 60        | 127  | 4/140A,B       | ( 43) | RI 7X11-FT | LOW SPEED  |          | 736     | 2209         | PUBLISHED |
| OA126A   | 5* 1*78 - 05*30*78  |                | 240/ 131      | 304  | 5/140C         | ( 47) | ARC 11-FT  | TRANSONIC  |          | 289     | 2424         | PUBLISHED |
| OA126B   | 4*17*78 - 04*30*78  |                | 120/ 97       | 256  | 5/140C         | ( 47) | ARC 9X7-FT | SUPERSONIC |          | 289     | 2424         | PUBLISHED |
| OA126C   | 12* 8*78 - 12*22*78 |                | 80/ 56        | 134  | 5/140C         | ( 47) | ARC 8X7-FT | SUPERSONIC |          | 289     | 2424         | PUBLISHED |
| OA129    | 7* 7*78 - 07*15*78  |                | 40/ 64        | 477  | VEH102         | ( 47) | AEDC 16-FT | TRANSONIC  |          | 507     | 2434         | PUBLISHED |
| OA131    | 9*11*74 - 03*26*74  |                | 80/ 96        | 109  | 5/140C         | ( 74) | MSFC 14-IN | TRANSONIC  |          | 607     | 2232         | PUBLISHED |
| OA143    | 11* 6*74 - 11*11*74 |                | 40/ 55        | 60   | 4/140A,B       | ( 16) | RI 7X11-FT | LOW SPEED  |          | 737     | 2221         | PUBLISHED |
| OA145A   | 3* 8*77 - 04*02*77  |                | 160/ 480      | 981  | VEH 102        | ( 39) | ARC 11-FT  | TRANSONIC  |          | 118     | 2380         | PUBLISHED |
| OA145B   | 4*15*77 - 05*03*77  |                | 80/ 348       | 240  | VEH 102        | ( 39) | ARC 9X7-FT | SUPERSONIC |          | 118     | 2364         | PUBLISHED |
| OA145C   | 4* 6*77 - 04*20*77  |                | 80/ 100       | 188  | VEH 102        | ( 39) | ARC 8X7-FT | SUPERSONIC |          | 118     | 2389         | PUBLISHED |
| OA146    | 11*28*78 - 12*07*78 |                | 80/ 116       | 30   | 5/140C         | ( 47) | ARC 8X7-FT | SUPERSONIC |          | 318     | 2445         | PUBLISHED |
| OA148    | 5* 5*75 - 05*17*75  |                | 220/ 264      | 474  | 4/140A,B (MOD) | ( 47) | ARC 11-FT  | TRANSONIC  |          | 073     | 2254         | PUBLISHED |

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| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | MODEL REF.     | (ID)  | FACILITY                 | WIND | TUNNEL | NO.  | DOCUMENT NO. | STATUS     |
|----------|---------------------|----------------|---------------|------|----------------|-------|--------------------------|------|--------|------|--------------|------------|
| OA149A   | 2*24*77 - 03*04*77  |                | 160/ 144      | 390  | 5/140C         | ( 47) | ARC 11-FT TRANSONIC      |      |        | 115  | 2376         | PUBLISHED  |
| OA149B   | 2* 2*77 - 02*07*77  |                | 40/ 168       | 201  | 5/140C         | ( 47) | ARC 9X7-FT SUPERSONIC    |      |        | 115  | 2370         | PUBLISHED  |
| OA149C   | 2*16*77 - 02*18*77  |                | 40/ 144       | 25   | 5/140C         | ( 47) | ARC 8X7-FT SUPERSONIC    |      |        | 115  | 2370         | PUBLISHED  |
| OA155    | 2*10*75 - 03*07*75  |                | 80/ 152       | 205  | 4/140A,B (MOD) | ( 47) | LARC V/STOL              |      |        | 114  | 2237         | IN PROCESS |
| OA159    | 6*23*75 - 07*08*75  |                | 160/ 152      | 50   | 140A,B/(ALT)   | ( 45) | ARC 12-FT PRESSURE       |      |        | 078  | 2265         | PUBLISHED  |
| OA160    | 2* 5*75 - 02*08*75  |                | 12/ 12        | 14   | 4/140A,B       | ( 51) | AEDC F / HYPERSONIC      |      |        | 28A  | 2247         | PUBLISHED  |
| OA161A   | 3*10*75 - 03*20*75  |                | 140/ 160      | 285  | 140A,B (MOD)   | ( 45) | ARC 11-FT TRANSONIC      |      |        | 094  | 2245         | PUBLISHED  |
| OA161B   | 3*20*75 - 03*26*75  |                | 24/ 30        | 49   | 140A,B (MOD)   | ( 45) | ARC 9X7-FT SUPERSONIC    |      |        | 094  | 2245         | PUBLISHED  |
| OA161C   | 3*26*75 - 03*31*75  |                | 20/ 22        | 45   | 140A,B (MOD)   | ( 45) | ARC 8X7-FT SUPERSONIC    |      |        | 094  | 2245         | PUBLISHED  |
| OA163A   | 11*24*75 - 12*09*75 |                | 160/ 144      | 215  | 4/140A,B       | ( 16) | RI 7X11-FT LOW SPEED     |      |        | 751  | 2289         | PUBLISHED  |
| OA163B   | 12*21*76 - 12*23*76 |                | 35/ 35        | 99   | 4/140A,B       | ( 16) | RI 7X11-FT LOW SPEED     |      |        | 788  | 2361         | PUBLISHED  |
| OA164    | 11*28*75 - 12*01*75 |                | 80/ 80        | 22   | OV101(ALT)     | ( 76) | ARC 40X80-FT SUBSONIC    |      |        | 473  | 2499         | PUBLISHED  |
| OA169    | 3*26*76 - 04*09*76  |                | 12/ 43        | 200  | 5/140C         | ( 70) | AEDC B / HYPERSONIC      |      |        | D8A  | 2320         | PUBLISHED  |
| OA171    | 6* 5*78 - 06*22*78  |                | 180/ 180      | 35   | VEH. 102       | (105) | NSWC HYPERSONIC LAB (#9) |      |        | 1310 | 2433         | PUBLISHED  |
| OA172    | 12*15*75 - 01*13*76 |                | 120/ 210      | 122  | 4/140A,B(ALT)  | ( 43) | RI 7X11-FT LOW SPEED     |      |        | 752  | 2294         | PUBLISHED  |
| OA173    | 3*15*76 - 03*26*76  |                | 160/ 256      | 48   | 140C(ALT)      | ( 45) | ARC 12-FT PRESSURE       |      |        | 180  | 2304         | PUBLISHED  |
| OA174    | 2* 2*76 - 02*27*76  |                | 240/ 264      | 165  | OV101(ALT)     | ( 76) | ARC 40X80-FT SUBSONIC    |      |        | 479  | 2302         | PUBLISHED  |
| OA175    | 6*28*76 - 07*09*76  |                | 160/ 240      | 290  | 140A,B (ALT)   | ( 47) | ARC 11-FT TRANSONIC      |      |        | 187  | 2333         | PUBLISHED  |
| OA176    | 3*29*76 - 04*15*76  |                | 60/ 83        | 113  | 4/140A,B(ALT)  | ( 43) | RI 7X11-FT LOW SPEED     |      |        | 754  | 2314         | PUBLISHED  |
| OA208    | 3*30*78 - 04*06*78  |                | 52/ 47        | 183  | VEH. 102       | (105) | AEDC B / HYPERSONIC      |      |        | P5A  | 2416         | PUBLISHED  |
| OA209    | 3*21*78 - 03*30*78  |                | 65/ 69        | 324  | VEH. 102       | (105) | AEDC A / SUPERSONIC      |      |        | P5A  | 2415         | PUBLISHED  |
| OA220    | 11*11*75 - 11*21*75 |                | 120/ 110      | 142  | VEH 101 (ADS)  | ( 57) | ARC 14-FT TRANSONIC      |      |        | 150  | 2286         | PUBLISHED  |
| OA221B   | 11* 8*76 - 21*15*76 |                | 60/ 76        | 184  | ADS PROBES     | ( 99) | ARC 9X7-FT SUPERSONIC    |      |        | 119  | 2360         | PUBLISHED  |
| OA221C   | 11*15*76 - 11*22*76 |                | 60/ 68        | 58   | ADS PROBES     | ( 99) | ARC 8X7-FT SUPERSONIC    |      |        | 119  | 2360         | PUBLISHED  |
| OA223    | 11*20*76 - 11*30*76 |                | 40/ 88        | 13   | VEH 102        | ( 39) | RI 7X11-FT LOW SPEED     |      |        | 776  | 2402         | PUBLISHED  |



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| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.       | MODEL | (ID)  | FACILITY          | WIND             | TUNNEL | NO.  | DOCUMENT NO. | ST ATUS    |
|----------|---------------------|----------------|---------------|------|------------|-------|-------|-------------------|------------------|--------|------|--------------|------------|
| 0A224    | 2*23*76 - 03*24*76  |                | 80/ 304       | 25   | VEH 102    | (ADS) | ( 57) | LARC 16-FT        | TRANSONIC        |        | 312  | 2329         | PUBLISHED  |
| 0A228    | 5*29*76 - 05*01*76  |                | 16/ 23        | 45   | VEH 102    | (ADS) | ( 57) | RI 7X11-FT        | LOW SPEED        |        | 757  | 2322         | PUBLISHED  |
| 0A232    | 2*17*78 - 03*01*78  |                | 80/ 80        | 281  | ADS PROBES |       | ( 99) | AEDC 16-FT        | TRANSONIC        |        | 431  | 2414         | PUBLISHED  |
| 0A234    | 6* 7*77 - 08*11*77  |                | 30/ 80        | 63   | ADS PROBES |       | ( 99) | LERC 10X10-FT     | SUPERSONIC       |        | 042  | 2400         | PUBLISHED  |
| 0A236    | 5*28*75 - 06*02*76  |                | 10/ 37        | 204  | ADS PROBES |       | ( 99) | RI 7X11-FT        | LOW SPEED        |        | 759  | 2337         | PUBLISHED  |
| 0A237    | 1*24*77 - 01*31*77  |                | 60/ 60        | 32   | ADS PROBES |       | ( 99) | ARC 40X80-FT      | SUBSONIC         |        | 500  | 2375         | PUBLISHED  |
| 0A239    | 10*25*76 - 11*09*76 |                | 24/ 48        | 57   | ADS PROBES |       | ( 99) | RI 7X11-FT        | LOW SPEED        |        | 764  | 2351         | PUBLISHED  |
| 0A250    | 7* 1*77 - 07*07*77  |                | 32/ 34        | 23   | 140C(ALT)  |       | ( 45) | RI 7X11-FT        | LOW SPEED        |        | 775  | 2392         | PUBLISHED  |
| 0A251B   | 1*17*78 - 04*23*78  |                | 40/ 80        | 90   | ADS PROBES |       | ( 99) | ARC 9X7-FT        | SUPERSONIC       |        | 282  | 2421         | PUBLISHED  |
| 0A251C   | 5*29*78 - 06*15*78  |                | 40/ 72        | 96   | ADS PROBES |       | ( 99) | ARC 8X7-FT        | SUPERSONIC       |        | 282  | 2421         | PUBLISHED  |
| 0A252    | 10*16*79 - 11*14*79 |                | 360/ 360      | 0    | TILE       |       | (107) | ARC 2X2-FT        | TRANSONIC        |        | 382  | 2473         | PUBLISHED  |
| 0A253    | 7* 1*80 - 07*08*80  |                | 80/ 80        | 139  | 5/140C     |       | ( 84) | AEDC 16-FT        | TRANSONIC        |        | 574  | 2486         | PUBLISHED  |
| 0A255A   | 10*13*80 - 11*07*80 |                | 240/ 228      | 268  | 0V102      |       | ( 70) | LARC UNITARY PLAN |                  |        | 1311 | 2498         | PUBLISHED  |
| 0A255D   | 1*12*81 - 02*02*81  |                | 240/ 160      | 90   | 0V102      |       | ( 70) | LARC UNITARY PLAN |                  |        | 1319 | 2498         | PUBLISHED  |
| 0A255C   | 1*24*80 - 12*15*80  |                | 240/ 140      | 27   | 0V102      |       | ( 70) | LARC UNITARY PLAN |                  |        | 1315 | 2498         | PUBLISHED  |
| 0A255E   | 1* 8*80 - 11*21*80  |                | 240/ 132      | 100  | 0V102      |       | ( 70) | LARC UNITARY PLAN |                  |        | 1358 | 2498         | PUBLISHED  |
| 0A256    | 2* 2*81 - 02*09*81  |                | 80/ 32        | 0    | 0V102      |       | ( 70) | LARC 16-FT        | TRANSONIC        |        | 352  |              | UNASSIGNED |
| 0A257    | 3*12*81 - 04*20*81  |                | 80/ 324       | 380  | VEH 102    |       | ( 72) | LARC 20-IN        | HYPERSONIC (M=6) |        | 6559 | 2403         | PUBLISHED  |
| 0A258    | 1*15*80 - 01*03*81  |                | 48/ 128       | 24   | VEH 102    |       | (108) | AEDC 8            | HYPERSONIC       |        | 342  | 2481         | PUBLISHED  |
| 0A259    | 2*12*81 - 02*27*81  |                | 80/ 32        | 37   | VEH 102    |       | ( 72) | AEDC 5            | HYPERSONIC       |        | 11   | 2483         | PUBLISHED  |
| 0A260    | 1*12*81 - 04*09*81  |                | 80/ 80        | 53   | VEH 102    |       | ( 72) | LARC 16-FT        | TRANSONIC        |        | 375  | 2483         | PUBLISHED  |
| 0A261    | 2*12*82 - 04*02*82  |                | 100/ 80       | 557  | VEH 102    |       | (108) | LARC 16-FT        | TRANSONIC        |        | 375  | 2483         | PUBLISHED  |
| 0A262    | 1* 2*82 - 04*25*82  |                | 80/ 12        | 80   | VEH 102    |       | (108) | LARC 16-FT        | TRANSONIC        |        | 325  | 2479         | PUBLISHED  |
| 0A263    | 1*23*80 - 05*02*80  |                | 120/ 80       | 800  | 3/140C     |       | ( 47) | ARC 11-FT         | TRANSONIC        |        | 427  | 2482         | PUBLISHED  |

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AUG 01, 1984

PHASE C/D SSV WIND TUNNEL TESTING PER TEST NUMBER

| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.         | MODEL | (ID)  | FACILITY              | WIND | TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|----------|---------------------|----------------|---------------|------|--------------|-------|-------|-----------------------|------|--------|-----|--------------|-----------|
| IA1A     | 10*10*72 - 10*19*72 |                | 56/ 84        | 179  | ATP          |       | ( 1)  | MSFC 14-IN TRANSONIC  |      |        | 556 | 2006         | PUBLISHED |
| IA1B     | 10*19*72 - 11*28*72 |                | 150/ 257      | 361  | ATP          |       | ( 1)  | MSFC 14-IN TRANSONIC  |      |        | 545 | 2010         | PUBLISHED |
| IA2      | 10*11*72 - 11*03*72 |                | 40/ 244       | 92   | PRE-ATP/OO1  |       | ( 7)  | ARC 9X7-FT SUPERSONIC |      |        | 616 | 2013         | PUBLISHED |
| IA3      | 11* 3*72 - 11*16*72 |                | 24/ 41        | 53   | PRE-ATP/OO1  |       | ( 10) | RI 7X11-FT LOW SPEED  |      |        | 693 | 2018         | PUBLISHED |
| IA4      | 11* 2*72 - 11*17*72 |                | 80/ 75        | 62   | PRE-ATP/OO1  |       | ( 9)  | LTV 4X4-FT SUPERSONIC |      |        | 458 | 2015         | PUBLISHED |
| IA6      | 4*30*73 - 05*03*73  |                | 45/ 52        | 94   | 2A/O89B      |       | ( 13) | MSFC 14-IN TRANSONIC  |      |        | 571 | 2039         | PUBLISHED |
| IA7      | 2*12*73 - 02*23*73  |                | 80/ 160       | 85   | PRE-ATP/OO1  |       | ( 7)  | ARC 11-FT TRANSONIC   |      |        | 686 | 2024         | PUBLISHED |
| IA8      | 2*12*73 - 03*12*73  |                | 80/ 160       | 54   | ATP          |       | ( 6)  | ARC 14-FT TRANSONIC   |      |        | 711 | 2173         | PUBLISHED |
| IA9A     | 4* 2*73 - 04*14*73  |                | 90/ 113       | 118  | 2A/O89B      |       | ( 17) | ARC 11-FT TRANSONIC   |      |        | 707 | 2032         | PUBLISHED |
| IA9B     | 5* 2*73 - 05*09*73  |                | 100/ 120      | 65   | 2A/O89B      |       | ( 17) | ARC 9X7-FT SUPERSONIC |      |        | 707 | 2032         | PUBLISHED |
| IA9C     | 4*22*73 - 05*01*73  |                | 60/ 60        | 102  | 2A/O89B      |       | ( 17) | ARC 8X7-FT SUPERSONIC |      |        | 707 | 2032         | PUBLISHED |
| IA10     | 8* 1*73 - 08*03*73  |                | 50/ 40        | 18   | 3/139B       |       | ( 32) | ARC 3.5-FT HYPERSONIC |      |        | 169 | 2078         | PUBLISHED |
| IA12B    | 4*23*73 - 05*07*73  |                | 120/ 156      | 63   | 2A/O89B(MOD) |       | ( 14) | ARC 9X7-FT SUPERSONIC |      |        | 710 | 2048         | PUBLISHED |
| IA12C    | 7*11*73 - 07*27*73  |                | 220/ 220      | 133  | 2A/O89(MOD)  |       | ( 14) | ARC 8X7-FT SUPERSONIC |      |        | 710 | 2065         | PUBLISHED |
| IA13     | 7* 5*73 - 07*17*73  |                | 40/ 39        | 762  | 3/139B       |       | ( 32) | AEDC A / SUPERSONIC   |      |        | 323 | 2062         | PUBLISHED |
| IA14A    | 9* 4*73 - 09*13*73  |                | 130/ 151      | 149  | 4/140A,B     |       | ( 47) | ARC 11-FT TRANSONIC   |      |        | 716 | 2084         | PUBLISHED |
| IA14B    | 9*14*73 - 09*19*73  |                | 48/ 41        | 66   | 4/140A,B     |       | ( 47) | ARC 9X7-FT SUPERSONIC |      |        | 716 | 2129         | PUBLISHED |
| IA15     | 10*10*73 - 10*16*73 |                | 64/ 80        | 25   | 3/139B       |       | ( 32) | ARC 3.5-FT HYPERSONIC |      |        | 175 | 2102         | PUBLISHED |
| IA16     | 11*17*73 - 12*04*73 |                | 80/ 52        | 9    | 4/140A,B     |       | ( 36) | ARC 3.5-FT HYPERSONIC |      |        | 180 | 2124         | PUBLISHED |
| IA17A    | 3* 6*74 - 03*15*74  |                | 40/ 45        | 997  | 3/139B       |       | ( 52) | AEDC B / HYPERSONIC   |      |        | 422 | 2156         | PUBLISHED |
| IA17B    | 3*18*74 - 03*19*74  |                | 8/ 8          | 13   | 3/139B       |       | ( 52) | AEDC B / HYPERSONIC   |      |        | 422 | 2230         | PUBLISHED |
| IA18     | 4* 9*74 - 04*12*74  |                | 60/ 64        | 26   | 3/139B       |       | ( 52) | ARC 3.5-FT HYPERSONIC |      |        | 191 | 2160         | PUBLISHED |
| IA19A    | 9*16*74 - 09*23*74  |                | 156/ 136      | 201  | 5/140C       |       | ( 88) | ARC 11-FT TRANSONIC   |      |        | 014 | 2170         | PUBLISHED |
| IA22     | 5* 3*76 - 05*08*76  |                | 52/ 49        | 750  | 5/140C       |       | ( 70) | AEDC B / HYPERSONIC   |      |        | 59A | 2327         | PUBLISHED |
| IA29     | 9*12*73 - 09*25*73  |                | 80/ 184       | 111  | 4/140A,B     |       | ( 36) | ARC 6X6-FT SUPERSONIC |      |        | 630 | 2077         | PUBLISHED |

| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.        | MODEL | (ID)  | FACILITY                     | WIND | TUNNEL | NO.  | DOCUMENT NO. | ST ATUS   |
|----------|---------------------|----------------|---------------|------|-------------|-------|-------|------------------------------|------|--------|------|--------------|-----------|
| IA31FA   | 4* 9*73 - 04*13*73  |                | 60/ 60        | 104  | 2A/089B     |       | ( 13) | MSFC 14-IN TRANSONIC         |      |        | 566  | 2026         | PUBLISHED |
| IA31FB   | 4*13*73 - 04*30*73  |                | 50/ 271       | 220  | 2A/089B     |       | ( 13) | MSFC 14-IN TRANSONIC         |      |        | 570  | 2028         | PUBLISHED |
| IA31FC   | 6*21*73 - 07*09*73  |                | 32/ 51        | 145  | 2A/089B     |       | ( 13) | MSFC 14-IN TRANSONIC         |      |        | 573  | 2072         | PUBLISHED |
| IA32F    | 5* 9*73 - 05*24*73  |                | 100/ 180      | 190  | 2A/089B     |       | ( 13) | MSFC 14-IN TRANSONIC         |      |        | 567  | 2027         | PUBLISHED |
| IA33     | 5* 9*74 - 07*21*74  |                | 256/ 264      | 270  | 5/140C      |       | ( 74) | MSFC 14-IN TRANSONIC         |      |        | 594  | 2174         | PUBLISHED |
| IA35     | 11* 1*73 - 11*02*73 |                | 60/ 30        | 22   | 4/140A.B    |       | ( 36) | LARC UNITARY PLAN            |      |        | 1063 | 2108         | PUBLISHED |
| IA36     | 6*15*73 - 06*22*73  |                | 60/ 80        | 120  | 2A/089(MOD) |       | ( 14) | CALSPAN 8-FT TRANSONIC       |      |        | 053  | 2064         | PUBLISHED |
| IA37A    | 7*10*73 - 07*13*73  |                | 60/ 36        | 64   | 3A/139B     |       | ( 34) | MSFC 14-IN TRANSONIC         |      |        | 579  | 2063         | PUBLISHED |
| IA37B    | 10*15*73 - 10*16*73 |                | 16/ 22        | 42   | 3A/139B     |       | ( 34) | MSFC 14-IN TRANSONIC         |      |        | 585  | 2093         | PUBLISHED |
| IA40     | 6*23*76 - 06*29*76  |                | 26/ 41        | 346  | 5/140C      |       | ( 75) | AEDC A / SUPERSONIC          |      |        | 425  | 2293         | PUBLISHED |
| IA41     | 12*11*73 - 12*14*73 |                | 80/ 64        | 86   | 4/140A.B    |       | ( 67) | LARC 8-FT TRANSONIC PRESSURE |      |        | 667  | 2118         | PUBLISHED |
| IA42A    | 11*27*73 - 12*04*73 |                | 40/ 70        | 62   | 4/140A.B    |       | ( 67) | LARC UNITARY PLAN            |      |        | 1056 | 2119         | PUBLISHED |
| IA42B    | 12*17*73 - 12*21*73 |                | 60/ 50        | 42   | 4/140A.B    |       | ( 67) | LARC UNITARY PLAN            |      |        | 1073 | 2119         | PUBLISHED |
| IA43     | 8*26*74 - 09*03*74  |                | 80/ 80        | 105  | 4/140A.B    |       | ( 72) | LARC 8-FT TRANSONIC PRESSURE |      |        | 693  | 2204         | PUBLISHED |
| IA44A    | 8*12*74 - 08*16*74  |                | 40/ 50        | 27   | 4/140A.B    |       | ( 72) | LARC UNITARY PLAN            |      |        | 1088 | 2206         | PUBLISHED |
| IA44B    | 8*19*74 - 08*23*74  |                | 40/ 80        | 47   | 4/140A.B    |       | ( 72) | LARC UNITARY PLAN            |      |        | 1119 | 2206         | PUBLISHED |
| IA48     | 7*18*73 - 07*21*73  |                | 20/ 24        | 40   | 3A/139B     |       | ( 34) | MSFC 14-IN TRANSONIC         |      |        | 580  | 2063         | PUBLISHED |
| IA52     | 10*11*73 - 10*17*73 |                | 16/ 28        | 27   | 3A/139B     |       | ( 34) | MSFC 14-IN TRANSONIC         |      |        | 584  | 2042         | PUBLISHED |
| IA53     | 12*20*73 - 01*04*74 |                | 40/ 36        | 45   | 2A/089B     |       | ( 13) | MSFC 14-IN TRANSONIC         |      |        | 588  | 2123         | PUBLISHED |
| IA57     | 11*20*73 - 11*20*73 |                | 10/ 9         | 10   | 3/139,089B  |       | ( 32) | AEDC A / SUPERSONIC          |      |        | 422  | 2112         | PUBLISHED |
| IA58     | 2*11*74 - 02*13*74  |                | 32/ 40        | 34   | 3/139,089B  |       | ( 32) | LARC 31-IN CONT-FLOW HYP.    |      |        | 107  | 2133         | PUBLISHED |
| IA60     | 2*14*74 - 02*20*74  |                | 15/ 36        | 55   | 3/139,089B  |       | ( 32) | LARC 31-IN CONT-FLOW HYP.    |      |        | 108  | 2137         | PUBLISHED |
| IA61A    | 1*30*74 - 01*31*74  |                | 10/ 10        | 88   | 3/139,089B  |       | ( 32) | AEDC A / SUPERSONIC          |      |        | 422  | 2143         | PUBLISHED |
| IA61B    | 2*26*74 - 02*26*74  |                | 8/ 18         | 9    | 3/139,089B  |       | ( 52) | AEDC A / SUPERSONIC          |      |        | 21AA | 2226         | PUBLISHED |
| IA62F    | 11*15*73 - 11*19*73 |                | 16/ 19        | 33   | 4/140A.B    |       | ( 34) | MSFC 14-IN TRANSONIC         |      |        | 589  | 2103         | PUBLISHED |

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| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.           | MODEL | (ID)  | FACILITY                     | WIND | TUNNEL | NO.  | DOCUMENT NO. | ST ATUS   |
|----------|---------------------|----------------|---------------|------|----------------|-------|-------|------------------------------|------|--------|------|--------------|-----------|
| IA68     | 1*18*74 - 01*29*74  |                | 32/ 36        | 34   | 2A/089B        |       | ( 13) | RI 7-FT TRISONIC             |      |        | 281  | 2144         | PUBLISHED |
| IA69     | 1*10*74 - 01*14*75  |                | 24/ 25        | 14   | 4/140A,B       |       | ( 67) | RI 7-FT TRISONIC             |      |        | 280  | 2122         | PUBLISHED |
| IA70     | 5* 3*74 - 05*24*74  |                | 80/ 161       | 173  | 4/140A,B       |       | ( 49) | RI 7-FT TRISONIC             |      |        | 282  | 2175         | PUBLISHED |
| IA71A-1  | 12*11*74 - 12*17*74 |                | 20/ 40        | 40   | 5/140C         |       | ( 77) | MSFC 14-IN TRANSONIC         |      |        | 610  | 2227         | PUBLISHED |
| IA71A-2  | 12*11*74 - 12*17*74 |                | 20/ 17        | 29   | 5/140C         |       | ( 74) | MSFC 14-IN TRANSONIC         |      |        | 610  | 2227         | PUBLISHED |
| IA71B-1  | 12*19*74 - 01*09*75 |                | 40/ 64        | 90   | 5/140C         |       | ( 77) | MSFC 14-IN TRANSONIC         |      |        | 610  | 2227         | PUBLISHED |
| IA71B-2  | 12*19*74 - 01*09*75 |                | 16/ 16        | 41   | 5/140C         |       | ( 74) | MSFC 14-IN TRANSONIC         |      |        | 610  | 2227         | PUBLISHED |
| IA72     | 5*19*75 - 05*31*75  |                | 120/ 200      | 176  | 5/140C         |       | ( 88) | ARC 11-FT TRANSONIC          |      |        | 072  | 2258         | PUBLISHED |
| IA80     | 11* 4*74 - 11*08*74 |                | 100/ 144      | 380  | 5/140C         |       | ( 88) | ARC 11-FT TRANSONIC          |      |        | 023  | 2212         | PUBLISHED |
| IA81A    | 7*26*74 - 08*27*74  |                | 84/ 184       | 99   | 4/140A,B (MOD) |       | ( 47) | ARC 11-FT TRANSONIC          |      |        | 019  | 2169         | PUBLISHED |
| IA81B    | 8* 9*74 - 08*22*74  |                | 60/ 208       | 88   | 4/140A,B (MOD) |       | ( 47) | ARC 9X7-FT SUPERSONIC        |      |        | 019  | 2194         | PUBLISHED |
| IA82B    | 1*28*75 - 02*04*75  |                | 70/ 132       | 286  | 5/140C         |       | ( 75) | ARC 9X7-FT SUPERSONIC        |      |        | 044  | 2231         | PUBLISHED |
| IA82C    | 11*11*74 - 11*15*74 |                | 80/ 92        | 240  | 5/140C         |       | ( 75) | ARC 8X7-FT SUPERSONIC        |      |        | 044  | 2219         | PUBLISHED |
| IA87     | 7*18*74 - 07*20*74  |                | 24/ 23        | 90   | 3/139B         |       | ( 52) | AEDC A / SUPERSONIC          |      |        | 60A  | 2192         | PUBLISHED |
| IA93     | 5*10*76 - 05*14*76  |                | 80/ 96        | 255  | 5/140C         |       | ( 72) | LARC 8-FT TRANSONIC PRESSURE |      |        | 749  | 2326         | PUBLISHED |
| IA94A    | 4*18*76 - 04*23*76  |                | 40/ 60        | 92   | 5/140C         |       | ( 72) | LARC UNITARY PLAN            |      |        | 1152 | 2323         | PUBLISHED |
| IA94B    | 4*26*76 - 05*04*76  |                | 80/ 84        | 144  | 5/140C         |       | ( 72) | LARC UNITARY PLAN            |      |        | 1177 | 2324         | PUBLISHED |
| IA105A   | 9* 2*77 - 11*20*77  |                | 290/ 281      | 885  | 5/140C         |       | ( 47) | AEDC 16-FT TRANSONIC         |      |        | 470  | 2398         | PUBLISHED |
| IA105B   | 1* 9*78 - 02*01*78  |                | 100/ 258      | 143  | 5/140C         |       | ( 47) | ARC 9X7-FT SUPERSONIC        |      |        | 242  | 2413         | PUBLISHED |
| IA109    | 7*26*70 - 8* 8*74   |                | 40/ 100       | 19   | 2A/089B        |       | ( 25) | MSFC IMPULSE BASE FLOW FAC.  |      |        | 27   | 2382         | PUBLISHED |
| IA110-1  | 7* 8*74 - 07*11*74  |                | 50/ 60        | 79   | 4/140A,B       |       | ( 49) | ARC 9X7-FT SUPERSONIC        |      |        | 052  | 2189         | PUBLISHED |
| IA110-2  | 7* 8*74 - 07*11*74  |                | 30/ 20        | 17   | 4/140A,B       |       | ( 67) | ARC 9X7-FT SUPERSONIC        |      |        | 052  | 2189         | PUBLISHED |
| IA111    | 3*21*75 - 03*28*75  |                | 36/ 33        | 1475 | 3/139B         |       | ( 52) | AEDC A / SUPERSONIC          |      |        | A3A  | 2242         | PUBLISHED |
| IA114    | 8*18*75 - 08*22*75  |                | 42/ 56        | 100  | 5/140C         |       | ( 52) | AEDC B / HYPERSONIC          |      |        | C4A  | 2272         | PUBLISHED |
| IA119    | 10* 7*77 - 10*31*77 |                | 170/ 285      | 620  | 5/140C         |       | ( 88) | ARC 11-FT TRANSONIC          |      |        | 275  | 2404         | PUBLISHED |

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| TEST NO. | SCHED.   | TESTING    | HOURS EST/CHG | RUNS | MODEL REF.     | (IC)  | FACILITY              | WIND | TUNNEL | NO.  | DOCUMENT NO. | ST ATUS    |
|----------|----------|------------|---------------|------|----------------|-------|-----------------------|------|--------|------|--------------|------------|
| IA125-1  | 4*25*75  | - 05*22*75 | 60/ 93        | 137  | 5/140C         | ( 74) | MSFC 14-IN TRANSONIC  |      |        | 622  | 2253         | PUBLISHED  |
| IA125-2  | 4*25*75  | - 05*22*75 | 40/ 30        | 50   | 5/140C(74TS)   | ( 77) | MSFC 14-IN TRANSONIC  |      |        | 622  | 2253         | PUBLISHED  |
| IA131B   | 11* 3*78 | - 11*09*78 | 48/ 40        | 0    | ET FORETANK    | ( 68) | ARC 9X7-FT SUPERSONIC |      |        | 283  | 2462         | PUBLISHED  |
| IA131C   | 3* 5*79  | - 03*11*79 | 48/ 40        | 0    | ET FORETANK    | ( 68) | ARC 8X7-FT SUPERSONIC |      |        | 283  | 2462         | PUBLISHED  |
| IA132    | 11*27*78 | - 12*14*78 | 96/ 96        | 0    | ET FORETANK    | ( 68) | AEDC 16-FT TRANSONIC  |      |        | 505  | 2449         | PUBLISHED  |
| IA135A   | 3* 2*76  | - 03*23*76 | 120/ 146      | 132  | 4/140A,B (MOD) | ( 47) | ARC 11-FT TRANSONIC   |      |        | 144  | 2306         | PUBLISHED  |
| IA135B   | 3* 5*76  | - 03*23*76 | 60/ 100       | 50   | 4/140A,B (MOD) | ( 47) | ARC 9X7-FT SUPERSONIC |      |        | 144  | 2306         | PUBLISHED  |
| IA135C   | 3*12*76  | - 03*23*76 | 20/ 40        | 5    | 4/140A,B (MOD) | ( 47) | ARC 8X7-FT SUPERSONIC |      |        | 144  | 2306         | PUBLISHED  |
| IA137    | 4*26*76  | - 05*03*76 | 40/ 56        | 43   | ET FORETANK    | ( 68) | ARC 14-FT TRANSONIC   |      |        | 143  | 2316         | PUBLISHED  |
| IA138    | 8*21*78  | - 09*01*78 | 70/ 112       | 224  | 5/140C         | ( 75) | ARC 9X7-FT SUPERSONIC |      |        | 246  | 2438         | PUBLISHED  |
| IA140A   | 6* 1*76  | - 08*03*76 | 64/ 222       | 230  | 5/140C         | ( 74) | MSFC 14-IN TRANSONIC  |      |        | 641  | 2335         | PUBLISHED  |
| IA140B   | 10* 1*76 | - 01*28*77 | 80/ 279       | 44   | 5/140C         | ( 74) | MSFC 14-IN TRANSONIC  |      |        | 646  | 2335         | PUBLISHED  |
| IA141    | 3*31*76  | - 04*05*76 | 30/ 30        | 37   | 5/140C         | ( 72) | RI 7-FT TRISONIC      |      |        | 297  | 2315         | PUBLISHED  |
| IA142    | 8*11*76  | - 08*18*76 | 78/ 64        | 1900 | 5/140C         | ( 75) | AEDC A / SUPERSONIC   |      |        | K1A  | 2346         | PUBLISHED  |
| IA143    | 11* 8*76 | - 11*13*76 | 65/ 58        | 2442 | 5/140C         | ( 75) | AEDC A / SUPERSONIC   |      |        | P8A  | 2354         | PUBLISHED  |
| IA144    | 4* 6*77  | - 04*15*77 | 160/ 200      | 514  | 5/140C         | ( 72) | ARC 11-FT TRANSONIC   |      |        | 228  | 2377         | PUBLISHED  |
| IA148    | 4*27*77  | - 05*03*77 | 52/ 52        | 272  | 5/140C         | ( 70) | AEDC B / HYPERSONIC   |      |        | TOA  | 2384         | PUBLISHED  |
| IA156A   | 10*28*77 | - 11*10*77 | 96/ 124       | 575  | VEH 102        | ( 89) | AEDC 16-FT TRANSONIC  |      |        | 470  | 2403         | PUBLISHED  |
| IA156B   | 12*16*77 | - 01*06*78 | 100/ 191      | 177  | VEH 102        | ( 89) | ARC 9X7-FT SUPERSONIC |      |        | 272  | 2408         | PUBLISHED  |
| IA180    | 3*26*79  | - 03*30*79 | 48/ 53        | 37   | ET FORETANK    | ( 68) | LARC UNITARY PLAN     |      |        | 1267 | 2457         | PUBLISHED  |
| IA181    | 12*15*77 | - 02*03*78 | 120/ 120      | 111  | 5/140C         | ( 74) | MSFC 14-IN TRANSONIC  |      |        | 649  | 2406         | PUBLISHED  |
| IA182    | 9*19*78  | - 09*20*78 | 12/ 24        | 87   | 5/140C         | ( 47) | AEDC 16-FT TRANSONIC  |      |        | 517  | 2439         | PUBLISHED  |
| IA183    | 11*15*78 | - 11*16*78 | 12/ 12        | 40   | VEH 102        | ( 89) | AEDC 16-FT TRANSONIC  |      |        | 519  | 2444         | PUBLISHED  |
| IA184    | 4* 2*79  | - 04*13*79 | 24/ 40        | 115  | 5/140C         | ( 47) | ARC 9X7-FT SUPERSONIC |      |        | 347  | 2456         | PUBLISHED  |
| IA190A   | 2* 7*80  | - 02*21*80 | 160/ 168      | 166  | 5/140C         | ( 47) | ARC 11-FT TRANSONIC   |      |        | 411  | 2476         | IN PROCESS |

| TEST NO. | SCHED.    | TESTING COMPL. | HOURS EST/CHG. | RUNS | MODEL REF. | (ID)  | FACILITY                     | WIND | TUNNEL | NO. | DOCUMENT NO. | ST ATUS    |
|----------|-----------|----------------|----------------|------|------------|-------|------------------------------|------|--------|-----|--------------|------------|
| IA1908   | 5*20*80 - | 02*21*80       | 120/ 104       | 294  | 5/140C     | ( 47) | ARC 9X7-FT SUPERSONIC        |      |        | 411 | 2476         | IN PROCESS |
| IA191    | 6*20*80 - | 06*27*80       | 40/ 40         | 0    | FUEL LINE  | (112) | ARC 11-FT TRANSONIC          |      |        | 412 | 2378         | PUBLISHED  |
| IA193    | 2*26*82 - | 04*31*82       | 72/ 720        | 0    | VEH 102    | ( 72) | AEDC A / SUPERSONIC          |      |        | A1G |              | UNASSIGNED |
| IA244    | 5*24*77 - | 06*01*77       | 80/ 76         | 154  | 5/140C     | ( 72) | LARC 8-FT TRANSONIC PRESSURE |      |        | 779 | 2391         | PUBLISHED  |

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PHASE C/D SSV WIND TUNNEL TESTING PER TEST NUMBER

| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.          | MODEL | (ID)  | FACILITY              | WIND        | TUNNEL | NO.  | DOCUMENT NO. | STATUS     |
|----------|---------------------|----------------|---------------|------|---------------|-------|-------|-----------------------|-------------|--------|------|--------------|------------|
| CA1      | 5*30*74 - 06*04*74  |                | 40/ 56        | 50   | ET/C-5A       |       | (399) | LOCKHEED (GA)         | - LOW SPEED |        |      |              | UNASSIGNED |
| CA2-1    | 6* 4*74 - 06*10*74  |                | 120/ 80       | 100  | 4/140A,B/C-5A |       | ( 43) | LOCKHEED (GA)         | - LOW SPEED |        |      |              | UNASSIGNED |
| CA2-2    | 6*11*74 - 06*23*74  |                | 40/ 40        | 64   | ET/C-5A       |       | (399) | LOCKHEED (GA)         | - LOW SPEED |        |      |              | UNASSIGNED |
| CA3      | 8*15*74 - 08*30*74  |                | 120/ 131      | 194  | 4/140A,B/747  |       | ( 43) | UNIV. OF WASH.        | LOW SPEED   |        | 1136 | 2201         | PUBLISHED  |
| CA4      | 5*28*74 - 06*07*74  |                | 64/ 120       | 100  | 4/140A,B/747  |       | ( 43) | UNIV. OF WASH.        | LOW SPEED   |        | 1128 |              | UNASSIGNED |
| CA5      | 9*20*74 - 09*30*74  |                | 144/ 181      | 520  | 140A,B/747    |       | ( 45) | THE BOEING CO.        | - TRANSONIC |        | 1431 | 2211         | PUBLISHED  |
| CA6      | 5*20*75 - 06*06*75  |                | 200/ 265      | 509  | 140A,B/747    |       | ( 45) | THE BOEING CO.        | - TRANSONIC |        | 1472 | 2262         | PUBLISHED  |
| CA8      | 8*18*75 - 09*12*75  |                | 200/ 324      | 536  | 4/140A,B/747  |       | ( 43) | LARC V/STOL           |             |        | 129  | 2290         | PUBLISHED  |
| CA9      | 6*25*75 - 07*14*75  |                | 320/ 302      | 85   | 4/140A,B/747  |       | ( 47) | THE BOEING CO.        | - TRANSONIC |        | 1477 | 2268         | PUBLISHED  |
| CA11     | 2*12*75 - 02*20*75  |                | 100/ 116      | 120  | ET/747        |       | ( 0)  | UNIV. OF WASH.        | LOW SPEED   |        | 1146 | 2236         | PUBLISHED  |
| CA13     | 6* 8*76 - 07*01*76  |                | 160/ 193      | 54   | 140C(ALT)/747 |       | ( 45) | ARC 14-FT TRANSONIC   |             |        | 121  | 2332         | PUBLISHED  |
| CA14     | 11*13*75 - 12*02*75 |                | 160/ 236      | 850  | 140A,B/747    |       | ( 45) | THE BOEING CO.        | - TRANSONIC |        | 1496 | 2307         | PUBLISHED  |
| CA15A    | 10*16*75 - 11*01*75 |                | 240/ 239      | 379  | 4/140A,B/747  |       | ( 43) | UNIV. OF WASH.        | LOW SPEED   |        | 1173 | 2347         | PUBLISHED  |
| CA15B    | 11*19*75 - 11*25*75 |                | 75/ 110       | 93   | 4/140A,B/747  |       | ( 43) | UNIV. OF WASH.        | LOW SPEED   |        | 1178 | 2348         | PUBLISHED  |
| CA16     | 8*23*75 - 09*05*75  |                | 72/ 84        | 60   | 140A,B/747    |       | ( 45) | TEXAS A&M 7X10-FT     | LOW SPEED   |        | 7515 |              | UNASSIGNED |
| CA17     | 6*21*76 - 07*02*76  |                | 152/ 152      | 261  | 4/140A,B/747  |       | ( 43) | UNIV. OF WASH.        | LOW SPEED   |        | 1184 | 2349         | PUBLISHED  |
| CA20     | 10* 9*74 - 10*15*74 |                | 115/ 115      | 288  | 140A,B/747    |       | ( 45) | THE BOEING CO.        | - TRANSONIC |        | 1431 | 2217         | PUBLISHED  |
| CA23A    | 3*21*75 - 04*17*75  |                | 120/ 213      | 71   | 140C(MOD)/747 |       | ( 48) | ARC 14-FT TRANSONIC   |             |        | 085  | 2243         | PUBLISHED  |
| CA23B    | 5* 1*75 - 07*23*75  |                | 160/ 132      | 46   | 140C(MOD)/747 |       | ( 48) | ARC 14-FT TRANSONIC   |             |        | 085  | 2275         | PUBLISHED  |
| CA26     | 8* 4*75 - 08*15*75  |                | 94/ 95        | 131  | 140C(MOD)/747 |       | ( 48) | LTV 4X4-FT SUPERSONIC |             |        | 559  | 2273         | PUBLISHED  |
| CA92     | 11*27*73 - 12*04*73 |                | 80/ 97        | 114  | 089B/747      |       | ( 2)  | THE BOEING CO.        | - V/STOL    |        | 132  |              | UNASSIGNED |
| CA103    | 11*26*73 - 11*28*73 |                | 24/ 24        | 45   | 089B/C-5A     |       | ( 2)  | LOCKHEED (CA)         | - LOW SPEED |        | 365  |              | UNASSIGNED |
| CA104    | 12*13*73 - 01*21*74 |                | 160/ 165      | 208  | 089B/C-5A     |       | ( 2)  | LOCKHEED (GA)         | - V/STOL    |        | 120  |              | UNASSIGNED |

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## PHASE C/D SSV WIND TUNNEL TESTING PER TEST NUMBER

| TEST NO. | SCHED.              | TESTING | HOURS EST/CHG | RUNS | MODEL         | (ID)  | FACILITY                      | WIND | TUNNEL | NO.  | DOCUMENT NO. | STATUS     |
|----------|---------------------|---------|---------------|------|---------------|-------|-------------------------------|------|--------|------|--------------|------------|
| SA1F     | 12* 9*72 - 12*23*72 |         | 160/ 144      | 200  | PRR/SRB       | ( 1)  | MSFC 14-IN TRANSONIC          |      |        | 554  | 2012         | PUBLISHED  |
| SA2FA    | 7*24*73 - 08*07*73  |         | 60/ 176       | 176  | SRB           | (454) | LARC 8-FT HIGH-TEMP STRUCTURE |      |        | 655  | 2088         | PUBLISHED  |
| SA2FB    | 9*24*73 - 09*28*73  |         | 60/ 52        | 60   | SRB           | (454) | LARC 8-FT TRANSONIC PRESSURE  |      |        | 662  | 2088         | PUBLISHED  |
| SA3F     | 2*20*73 - 03*20*73  |         | 160/ 164      | 261  | SRB           | (449) | MSFC 14-IN TRANSONIC          |      |        | 565  | 2025         | PUBLISHED  |
| SA5F     | 5* 3*73 - 05*08*73  |         | 45/ 52        | 101  | SRB           | (449) | MSFC 14-IN TRANSONIC          |      |        | 572  | 2051         | PUBLISHED  |
| SA6F     | 12* 3*73 - 01*16*74 |         | 120/ 208      | 0    | SRB           | (454) | LERC 10X10-FT SUPERSONIC      |      |        | 035  | 2161         | PUBLISHED  |
| SA8F     | 10*18*74 - 12*10*74 |         | 160/ 250      | 0    | SRB           | (471) | MSFC 14-IN TRANSONIC          |      |        | 604  | 2223         | PUBLISHED  |
| SA9F     | 7* 8*74 - 07*29*74  |         | 150/ 256      | 90   | SRB/DROGUE    | ( 0)  | LARC 16-FT TRANSONIC          |      |        | 243  |              | UNASSIGNED |
| SA10F    | 9*13*73 - 10*01*73  |         | 112/ 128      | 200  | SRB           | (449) | MSFC 14-IN TRANSONIC          |      |        | 578  | 2087         | PUBLISHED  |
| SA11FA   | 4*14*76 - 04*26*76  |         | 200/ 193      | 0    | SRB           | (483) | ARC 11-FT TRANSONIC           |      |        | 074  | 2331         | PUBLISHED  |
| SA11FB   | 4*25*76 - 05*07*76  |         | 120/ 84       | 0    | SRB           | (483) | ARC 9X7-FT SUPERSONIC         |      |        | 074  | 2331         | PUBLISHED  |
| SA11FC   | 3*29*76 - 04*14*76  |         | 120/ 156      | 0    | SRB           | (483) | ARC 8X7-FT SUPERSONIC         |      |        | 074  | 2331         | PUBLISHED  |
| SA13F    | 9*30*74 - 06*17*75  |         | 100/ 100      | 0    | SRB           | (461) | MSFC 32-IN LUDWIG (HIGH RN)   |      |        | 034  | 2277         | PUBLISHED  |
| SA14FA   | 12*23*75 - 03*19*76 |         | 140/ 144      | 200  | SRB           | (449) | MSFC 14-IN TRANSONIC          |      |        | 620  | 2325         | PUBLISHED  |
| SA14FB   | 1* 6*76 - 03*11*76  |         | 48/ 549       | 100  | SRB           | (486) | MSFC 14-IN TRANSONIC          |      |        | 640  | 2310         | PUBLISHED  |
| SA16F    | 5* 5*76 - 05*06*76  |         | 8/ 8          | 9    | SRB           | (486) | AEDC 4-FT TRANSONIC           |      |        | 445  | 2334         | PUBLISHED  |
| SA21F    | 9*16*76 - 10*06*76  |         | 56/ 120       | 200  | SRB           | (486) | MSFC 14-IN TRANSONIC          |      |        | 645  | 2345         | PUBLISHED  |
| SA25F    | 3* 4*74 - 03*11*74  |         | 40/ 30        | 16   | SRB           | (454) | LARC UNITARY PLAN             |      |        | 1087 | 2150         | PUBLISHED  |
| SA26FA   | 11*19*73 - 12*11*73 |         | 63/ 63        | 100  | SRB           | (449) | MSFC 14-IN TRANSONIC          |      |        | 590  | 2111         | PUBLISHED  |
| SA26FB   | 1*28*74 - 01*30*74  |         | 16/ 13        | 50   | SRB           | (449) | MSFC 14-IN TRANSONIC          |      |        | 595  | 2111         | PUBLISHED  |
| SA28F-1  | 3*17*75 - 04*11*75  |         | 80/ 102       | 200  | SRB           | (468) | MSFC 14-IN TRANSONIC          |      |        | 603  | 2244         | PUBLISHED  |
| SA28F-2  | 3*17*75 - 04*11*75  |         | 40/ 50        | 160  | SRB           | (469) | MSFC 14-IN TRANSONIC          |      |        | 603  | 2244         | PUBLISHED  |
| SA29F    | 8* 8*74 - 09*18*74  |         | 120/ 120      | 0    | SRB FORE BODY | (467) | CALSPAN 32-IN LUDWIG          |      |        | 033  | 2207         | PUBLISHED  |
| SA30F    | 3* 3*75 - 03*13*75  |         | 80/ 72        | 185  | SRB           | (473) | MSFC 14-IN TRANSONIC          |      |        | 611  | 2235         | PUBLISHED  |
| SA31F    | 4*27*76 - 02*01*77  |         | 80/ 80        | 0    | SRB           | (487) | MSFC 32-IN LUDWIG (HIGH RN)   |      |        | 039  | 2369         | PUBLISHED  |



| TEST NO. | SCHED.  | TESTING COMPL. | HOURS EST/CHG | RUNS | REF. | MODEL | (ID)  | FACILITY                     | WIND | TUNNEL | NO. | DOCUMENT NO. | STATUS     |
|----------|---------|----------------|---------------|------|------|-------|-------|------------------------------|------|--------|-----|--------------|------------|
| SA32F    | 3+22*76 | - 04*02*76     | 150/ 150      | 94   | SRB  |       | ( O ) | LARC 16-FT TRANSONIC DYNAMIC |      |        | 275 |              | UNASSIGNED |
| SA38F    | 9+23*76 | - 09*27*76     | 32/ 30        | 0    | SRB  |       | ( O ) | LOCKHEED (GA) - LOW SPEED    |      |        | 190 |              | UNASSIGNED |

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| TEST<br>NO. | SCHED.    | TESTING<br>CG#PL. | HOURS<br>EST/CHG | RUNS | REF.     | MODEL | (ID)  | FACILITY              | WIND | TUNNEL | NO. | DOCUMENT<br>NO. | STATUS     |
|-------------|-----------|-------------------|------------------|------|----------|-------|-------|-----------------------|------|--------|-----|-----------------|------------|
| TA1F        | 2*19*74 - | 03*05*74          | 56/ 64           | 0    | ET       |       | (459) | MSFC 14-IN TRANSONIC  |      |        | 583 | 2145            | PUBLISHED  |
| TA2F        | 4*29*74 - | 09*23*74          | 104/ 104         | 0    | ET       |       | (460) | MSFC 14-IN TRANSONIC  |      |        | 596 | 2165            | PUBLISHED  |
| TA3F        | 9*27*74 - | 10*11*74          | 64/ 80           | 0    | ET       |       | (470) | MSFC 14-IN TRANSONIC  |      |        | 609 | 2208            | PUBLISHED  |
| TA6F        | 8* 4*76 - | 08*20*76          | 40/ 80           | 0    | L. INST. |       | ( )   | MSFC 14-IN TRANSONIC  |      |        | 643 |                 | UNASSIGNED |
| TA9F        | 6* 3*74 - | 06*15*74          | 128/ 144         | 0    | ET       |       | (466) | ARC 3.5-FT HYPERSONIC |      |        | 196 | 2181            | PUBLISHED  |

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| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.           | MODEL | (ID)  | FACILITY                    | WIND | TUNNEL | NO.  | NO.  | DOCUMENT STATUS |
|----------|---------------------|----------------|---------------|------|----------------|-------|-------|-----------------------------|------|--------|------|------|-----------------|
| MA1      | 8*25*72 - 09*06*72  |                | 80/ 80        | 120  | JSC O40A ORB.  |       | ( 95) | LTV 15X20-FT LOW SPEED      |      |        | 407  | 2004 | PUBLISHED       |
| MA2      | 9*18*72 - 11*06*72  |                | 40/ 80        | 31   | ATP            |       | ( 1)  | LARC 22-IN HELIUM           |      |        | 409  | 2003 | PUBLISHED       |
| MA4      | 10* 1*72 - 10*02*72 |                | 16/ 16        | 12   | RI ATP ORBITER |       | ( 0)  | LARC 31-IN CONT-FLOW HYP.   |      |        | 089  | 2008 | PUBLISHED       |
| MA5      | 9*15*72 - 09*25*72  |                | 80/ 60        | 30   | PRE-ATP/OO1    |       | ( 10) | LARC UNITARY PLAN           |      |        | 1002 | 2001 | PUBLISHED       |
| MA6      | 4* 2*73 - 04*06*73  |                | 120/ 136      | 4    | RI PRR ORB.    |       | ( 27) | ARC 3.5-FT HYPERSONIC       |      |        | 156  |      | UNASSIGNED      |
| MA7      | 5*14*73 - 05*18*73  |                | 50/ 50        | 81   | 2A/O89B        |       | ( 6)  | LARC UNITARY PLAN           |      |        | 1031 | 2069 | PUBLISHED       |
| MA8      | 12*15*72 - 01*27*73 |                | 40/ 40        | 40   | JSC O40A ORB.  |       | ( 95) | TEXAS A+M 7X10-FT LOW SPEED |      |        | MA8  |      | UNASSIGNED      |
| MA9F     | 11*29*72 - 12*07*72 |                | 74/ 75        | 132  | ATP            |       | ( 1)  | MSFC 14-IN TRANSONIC        |      |        | 558  | 2011 | PUBLISHED       |
| MA10F    | 7*23*73 - 09*12*73  |                | 160/ 305      | 0    | OGIVE CYL      |       | ( 0)  | MSFC 14-IN TRANSONIC        |      |        | 575  |      | UNASSIGNED      |
| MA11F    | 1* 3*74 - 01*18*74  |                | 80/ 102       | 0    | OGIVE CYL      |       | ( 0)  | MSFC 14-IN TRANSONIC        |      |        | 586  |      | UNASSIGNED      |
| MA12F    | 10* 1*73 - 02*04*74 |                | 80/ 328       | 0    | OGIVE CYL      |       | ( 0)  | MSFC 32-IN LUDWIG (HIGH RN) |      |        | 031  |      | UNASSIGNED      |
| MA13     | 4*15*74 - 05*03*74  |                | 120/ 176      | 0    | GULFSTREAM 2   |       | ( 0)  | ARC 12-FT PRESSURE          |      |        | 028  |      | UNASSIGNED      |
| MA14     | 4*23*73 - 05*02*73  |                | 80/ 62        | 103  | 2A/O89B(CAN)   |       | ( 95) | LTV 15X20-FT LOW SPEED      |      |        | 422  | 2283 | PUBLISHED       |
| MA16     | 10* 3*73 - 10*12*73 |                | 40/ 56        | 106  | O89B/C-5A      |       | ( 2)  | LOCKHEED (CA) - LOW SPEED   |      |        | 363  |      | UNASSIGNED      |
| MA17     | 4* 8*74 - 04*22*74  |                | 120/ 152      | 0    | GULFSTREAM 2   |       | ( 0)  | ARC 11-FT TRANSONIC         |      |        | 003  |      | UNASSIGNED      |
| MA18     | 6* 5*74 - 06*22*74  |                | 200/ 200      | 254  | GULFSTREAM 2   |       | ( 0)  | GRUMMAN - LOW SPEED         |      |        | 324  |      | UNASSIGNED      |
| MA19     | 8*16*74 - 09*12*74  |                | 120/ 144      | 36   | GULFSTREAM 2   |       | ( 0)  | LARC 16-FT TRANSONIC        |      |        | 295  |      | UNASSIGNED      |
| MA21     | 8*15*75 - 09*04*75  |                | 80/ 92        | 50   | 5/140C         |       | ( 34) | JPL 20-IN SUPERSONIC        |      |        | 702  |      | UNASSIGNED      |
| MA22     | 5* 6*75 - 06*03*75  |                | 100/ 168      | 357  | 4/140A.B       |       | ( 32) | LARC 31-IN CONT-FLOW HYP.   |      |        | 118  | 2267 | PUBLISHED       |
| MA24     | 7* 9*75 - 08*11*75  |                | 24/ 176       | 200  | 2A/O89B(MOD)   |       | ( 2)  | TEXAS A+M 7X10-FT LOW SPEED |      |        | 7513 |      | UNASSIGNED      |
| MA28     | 9*29*76 - 09*29*76  |                | 7/ 1          | 0    | 2A/O89B        |       | ( 6)  | AEDC A / SUPERSONIC         |      |        | K8A  |      | UNASSIGNED      |
| MA29     | 10*14*76 - 10*14*46 |                | 7/ 7          | 0    | SEMISPAN       |       | ( 0)  | AEDC B / HYPERSONIC         |      |        | K7A  | 2451 | PUBLISHED       |
| MA33A    | 4*19*82 - 04*30*82  |                | 80/ 144       | 0    | VEH 102        |       | (106) | ARC 11-FT TRANSONIC         |      |        | 510  | 2507 | PUBLISHED       |
| MA33B    | 5*10*82 - 05*21*82  |                | 10/ 96        | 0    | VEH 102        |       | (106) | ARC 9X7-FT SUPERSONIC       |      |        | 510  | 2507 | PUBLISHED       |
| MA34     | 3*12*81 - 03*20*81  |                | 40/ 60        | 0    | ADS PROBES     |       | ( 99) | AEDC 16-FT TRANSONIC        |      |        | 594  | 2497 | IN PROCESS      |

| TEST<br>NO. | SCHED.              | TESTING<br>COMPL. | HOURS<br>EST/CHG | RUNS | REF.       | MODEL | (ID)                  | FACILITY | WIND | TUNNEL | NO.  | DOCUMENT<br>NO. | ST | ATUS       |
|-------------|---------------------|-------------------|------------------|------|------------|-------|-----------------------|----------|------|--------|------|-----------------|----|------------|
| MA35B       | 12* 2*81 - 12*16*81 | 40/               | 80               | 0    | ADS PROBES | ( 99) | ARC 9X7-FT SUPERSONIC |          |      |        | 513  |                 |    | UNASSIGNED |
| MA35C       | 4*19*82 - 04*23*82  | 40/               | 120              | 0    | ADS PROBES | ( 99) | ARC 8X7-FT SUPERSONIC |          |      |        | 513  |                 |    | UNASSIGNED |
| MA37        | 11* 2*81 - 11*04*81 | 40/               | 24               | 100  | VEH 102    | (106) | LARC UNITARY PLAN     |          |      |        | 1394 |                 |    | UNASSIGNED |

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| TEST NO. | SCHFD.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.           | MODEL | (ID)  | FACILITY   | WIND             | TUNNEL  | NO. | DOCUMENT NO. | STATUS     |
|----------|---------------------|----------------|---------------|------|----------------|-------|-------|------------|------------------|---------|-----|--------------|------------|
| FA1      | 10*10*72 - 11*15*72 |                | 416/ 400      | 200  | PRE-ATP/OO1    |       | ( 10) | LARC 16-FT | TRANSONIC        | DYNAMIC | 210 |              | UNASSIGNED |
| FA4      | 1*18*74 - 04*15*74  |                | 40/ 182       | 0    | TITAN-3C       |       | (459) | MSFC 14-IN | TRANSONIC        |         | 587 | 2142         | PUBLISHED  |
| FA6      | 7*10*74 - 08*19*74  |                | 40/ 584       | 0    | OGIVE CYL      |       | ( 0)  | ARC 6X6-FT | SUPERSONIC       |         | 033 |              | UNASSIGNED |
| FA7      | 8*20*74 - 08*28*74  |                | 40/ 166       | 0    | OGIVE CYL      |       | ( 0)  | ARC 6X6-FT | SUPERSONIC       |         | 033 |              | UNASSIGNED |
| FA8      | 11* 8*73 - 11*23*74 |                | 80/ 80        | 0    | 3 ENG. FIRING  |       | ( 0)  | AEDC J     |                  |         | 000 |              | UNASSIGNED |
| FA10     | 1* 7*74 - 01*14*74  |                | 40/ 56        | 0    | JET PLUME SIM. |       | ( 0)  | MSFC 14-IN | TRANSONIC        |         | 591 |              | UNASSIGNED |
| FA11     | 13*11*74 - 4*08*74  |                | 160/ 176      | 0    | CONE-OGIVE-CYL |       | ( 0)  | MSFC 14-IN | TRANSONIC        |         | 593 |              | UNASSIGNED |
| FA12     | 3* 6*74 - 03*10*74  |                | 24/ 24        | 0    | CONE-CYLINDER  |       | ( 0)  | MSFC 14-IN | TRANSONIC        |         | 597 |              | UNASSIGNED |
| FA13     | 8* 7*75 - 09*11*75  |                | 160/ 200      | 0    | CONE CYLINDER  |       | ( 0)  | MSFC 14-IN | TRANSONIC        |         | 612 |              | UNASSIGNED |
| FA14     | 1* 9*75 - 07*06*75  |                | 60/ 142       | 0    | 5/140C         |       | ( 74) | MSFC 14-IN | TRANSONIC        |         | 600 | 2274         | PUBLISHED  |
| FA15     | 1*31*77 - 05*01*77  |                | 104/ 320      | 0    | OGIVE CYLINDER |       | ( 0)  | MSFC 14-IN | TRANSONIC        |         | 632 |              | UNASSIGNED |
| FA19     | 15* 2*77 - 07*05*77 |                | 104/ 278      | 0    | ACOUSTICS      |       | ( 0)  | MSFC 14-IN | TRANSONIC        |         | 630 |              | UNASSIGNED |
| FA20A    | 7*18*75 - 07*22*75  |                | 24/ 24        | 0    | NOZZLE CALIB.  |       | ( 0)  | MSFC 14-IN | TRANSONIC        |         | 631 |              | UNASSIGNED |
| FA20B    | 10* 3*75 - 10*13*75 |                | 60/ 52        | 0    | TRIPLE BODY    |       | ( 0)  | AEDC 4-FT  | TRANSONIC        |         | 409 |              | UNASSIGNED |
| FA21A    | 10*23*75 - 10*31*75 |                | 24/ 44        | 0    | NOZZLE CALIB.  |       | ( 0)  | MSFC 14-IN | TRANSONIC        |         | 633 |              | UNASSIGNED |
| FA21B    | 2*17*76 - 04*21*76  |                | 0/ 368        | 0    | ROCKET MOTOR   |       | ( 0)  | MSFC 32-IN | LUDWIG (HIGH RN) |         | 038 |              | UNASSIGNED |
| FA22A    | 7* 9*75 - 07*17*75  |                | 12/ 56        | 0    | NOZZLE CALIB.  |       | ( 0)  | MSFC 14-IN | TRANSONIC        |         | 628 |              | UNASSIGNED |
| FA22B    | 7*21*75 - 07*25*75  |                | 30/ 35        | 0    | OGIVE CYLINDER |       | ( 0)  | AEDC 4-FT  | TRANSONIC        |         | 390 |              | UNASSIGNED |
| FA23A    | 11* 3*75 - 11*06*75 |                | 60/ 28        | 0    | NOZZLE CALIB.  |       | ( 0)  | MSFC 14-IN | TRANSONIC        |         | 627 |              | UNASSIGNED |
| FA23B    | 12* 1*75 - 12*12*75 |                | 60/ 72        | 0    | TRIPLE BODY    |       | ( 0)  | ARC 9X7-FT | SUPERSONIC       |         | 103 |              | UNASSIGNED |
| FA23C    | 7*24*76 - 08*04*76  |                | 60/ 44        | 0    | TRIPLE BODY    |       | ( 0)  | ARC 11-FT  | TRANSONIC        |         | 103 |              | UNASSIGNED |
| FA25     | 4*15*78 - 08*01*78  |                | 200/ 294      | 0    | 5/140C         |       | ( 74) | MSFC 14-IN | TRANSONIC        |         | 652 | 2437         | PUBLISHED  |
| FA26     | 5* 1*78 - 06*01*78  |                | 80/ 80        | 0    | 5/140C         |       | ( 74) | MSFC 14-IN | TRANSONIC        |         | 653 |              | UNASSIGNED |
| FA27     | 3*14*79 - 05*16*79  |                | 150/ 160      | 0    | 5/140C         |       | ( 74) | MSFC 14-IN | TRANSONIC        |         | 655 | 2460         | IN PROCESS |
| FA28     | 8* 1*79 - 09*01*79  |                | 200/ 0        | 0    | 5/140C         |       | ( 74) | MSFC 14-IN | TRANSONIC        |         | 656 | 2474         | PUBLISHED  |

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| TEST NO. | SCHED.             | TESTING COMPL. | HOURS EST/CHG | RUNS | MODEL REF. | (ID)   | FACILITY | WIND                 | TUNNEL | NO. | DOCUMENT NO. | ST | ATUS       |
|----------|--------------------|----------------|---------------|------|------------|--------|----------|----------------------|--------|-----|--------------|----|------------|
| FA29     | 4* 1*79 - 05*00*79 |                | 400/          | 0    | 0          | 5/140C | ( 74)    | MSFC 14-IN TRANSONIC |        |     | 657          |    | UNASSIGNED |

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| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.           | MODEL | (ID)  | FACILITY                     | WIND | TUNNEL | NO.  | DOCUMENT NO. | STATUS     |
|----------|---------------------|----------------|---------------|------|----------------|-------|-------|------------------------------|------|--------|------|--------------|------------|
| LA1      | 11*19*72 - 12*19*72 |                | 60/ 84        | 73   | ATP            |       | ( 6)  | LARC 8-FT TRANSONIC PRESSURE |      |        | 626  | 2002         | PUBLISHED  |
| LA2      | 10* 6*72 - 12*07*72 |                | 120/ 136      | 24   | L/O-100 ORB.   |       | ( 0)  | LARC 22-IN HELIUM            |      |        | 411  | 2023         | PUBLISHED  |
| LA3      | 8*23*72 - 11*16*72  |                | 40/ 46        | 19   | L/O-100 ORB.   |       | ( 0)  | LARC 31-IN CONT-FLOW HYP.    |      |        | 085  | 2031         | PUBLISHED  |
| LA4A     | 11* 2*72 - 12*06*72 |                | 80/ 75        | 37   | L/O-100 ORB.   |       | ( 0)  | LARC UNITARY PLAN            |      |        | 1014 | 2033         | PUBLISHED  |
| LA4B     | 10*25*72 - 11*01*72 |                | 80/ 60        | 32   | L/O-100 ORB.   |       | ( 0)  | LARC UNITARY PLAN            |      |        | 995  | 2033         | PUBLISHED  |
| LA4C     | 2*19*73 - 02*23*73  |                | 80/ 50        | 43   | L/O-100 ORB.   |       | ( 0)  | LARC UNITARY PLAN            |      |        | 995  | 2033         | PUBLISHED  |
| LA6      | 4*12*73 - 04*18*73  |                | 72/ 72        | 108  | 089B, 139 NOSE |       | ( 0)  | LARC 8-FT TRANSONIC PRESSURE |      |        | 643  | 2040         | PUBLISHED  |
| LA8A     | 4*18*73 - 04*24*73  |                | 50/ 45        | 58   | 089B, 139 NOSE |       | ( 0)  | LARC UNITARY PLAN            |      |        | 1023 | 2054         | PUBLISHED  |
| LA8B     | 5* 7*73 - 05*15*73  |                | 50/ 70        | 50   | 089B, 139 NOSE |       | ( 0)  | LARC UNITARY PLAN            |      |        | 1034 | 2054         | PUBLISHED  |
| LA8C     | 7* 7*73 - 07*06*73  |                | 50/ 30        | 14   | 089B, 139 NOSE |       | ( 0)  | LARC UNITARY PLAN            |      |        | 1039 | 2054         | PUBLISHED  |
| LA8D     | 7*10*73 - 07*13*73  |                | 50/ 42        | 37   | 089B, 139 NOSE |       | ( 0)  | LARC UNITARY PLAN            |      |        | 1040 | 2090         | PUBLISHED  |
| LA9A     | 4*26*73 - 05*07*73  |                | 160/ 96       | 65   | 089B, 139 NOSE |       | ( 0)  | LARC LOW TURBULANCE PRESSURE |      |        | 130  | 2056         | PUBLISHED  |
| LA9B     | 5*23*73 - 05*31*73  |                | 140/ 32       | 22   | 089B, 139 NOSE |       | ( 0)  | LARC LOW TURBULANCE PRESSURE |      |        | 135  | 2056         | PUBLISHED  |
| LA9C     | 10*31*73 - 11*02*73 |                | 140/ 32       | 28   | 089B, 139 NOSE |       | ( 0)  | LARC LOW TURBULANCE PRESSURE |      |        | 148  | 2056         | PUBLISHED  |
| LA11     | 7*11*73 - 07*20*73  |                | 24/ 58        | 85   | 089B, 139 NOSE |       | ( 0)  | LARC 31-IN CONT-FLOW HYP.    |      |        | 096  | 2066         | PUBLISHED  |
| LA12A    | 9* 4*73 - 09*17*73  |                | 40/ 80        | 15   | 089B, 139 NOSE |       | ( 0)  | LARC 22-IN HELIUM            |      |        | 418  |              | UNASSIGNED |
| LA12B    | 9*18*73 - 01*17*74  |                | 272/ 272      | 56   | 089B, 139 NOSE |       | ( 0)  | LARC 22-IN HELIUM            |      |        | 419  |              | UNASSIGNED |
| LA13A    | 8*17*73 - 08*28*73  |                | 40/ 64        | 15   | 089B, 139 NOSE |       | ( 0)  | LARC 31-IN CONT-FLOW HYP.    |      |        | 099  | 2135         | CANCEL     |
| LA13B    | 10* 9*73 - 10*15*73 |                | 40/ 40        | 16   | 089B, 139 NOSE |       | ( 0)  | LARC 31-IN CONT-FLOW HYP.    |      |        | 099  | 2135         | CANCEL     |
| LA13C    | 11*14*73 - 11*16*73 |                | 40/ 24        | 31   | 089B, 139 NOSE |       | ( 0)  | LARC 31-IN CONT-FLOW HYP.    |      |        | 099  | 2135         | CANCEL     |
| LA14A    | 8*17*73 - 08*28*73  |                | 100/ 80       | 20   | 089B, 139 NOSE |       | (202) | LARC UNITARY PLAN            |      |        | 1046 | 2106         | PUBLISHED  |
| LA14B    | 8* 6*73 - 08*16*73  |                | 100/ 90       | 47   | 089B, 139 NOSE |       | (202) | LARC UNITARY PLAN            |      |        | 1049 | 2106         | PUBLISHED  |
| LA14C    | 9* 5*73 - 09*10*73  |                | 100/ 40       | 45   | 089B, 139 NOSE |       | (202) | LARC UNITARY PLAN            |      |        | 1055 | 2106         | PUBLISHED  |
| LA14D    | 12* 5*73 - 12*07*73 |                | 100/ 30       | 9    | 089B, 139 NOSE |       | (202) | LARC UNITARY PLAN            |      |        | 1058 | 2106         | PUBLISHED  |
| LA15     | 8* 3*73 - 09*24*73  |                | 120/ 240      | 69   | 089B, 139 NOSE |       | ( 0)  | LARC 20-IN HYPERSONIC (N=6)  |      |        | 6441 | 2079         | PUBLISHED  |

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| TEST<br>NO. | SCHED.              | TESTING<br>COMPL. | HOURS<br>EST/CHG | RUNS | REF. | MODEL           | (ID)   | FACILITY     | WIND                | TUNNEL | NO.  | DOCUMENT<br>NO. | STATUS     |
|-------------|---------------------|-------------------|------------------|------|------|-----------------|--------|--------------|---------------------|--------|------|-----------------|------------|
| LA16        | 6*26*72 - 08*23*72  |                   | 60/ 64           | 72   |      | HRSI TILE       | ( O )  | LARC MACH 8  | VARIABLE DENSITY    |        | 624  | 2043            | PUBLISHED  |
| LA17        | 5* 4*73 - 05*14*73  |                   | 80/ 96           | 102  |      | L/O-100 ORB     | ( O )  | LARC 8-FT    | TRANSONIC PRESSURE  |        | 648  | 2046            | PUBLISHED  |
| LA20A       | 6*22*73 - 07*06*73  |                   | 160/ 160         | 81   |      | 089B, 139NOSE   | (202)  | LARC 8-FT    | TRANSONIC PRESSURE  |        | 653  | 2107            | PUBLISHED  |
| LA20B       | 8*21*74 - 08*26*74  |                   | 160/ 54          | 20   |      | 089B, 139NOSE   | (202)  | LARC 8-FT    | TRANSONIC PRESSURE  |        | 692  | 2107            | PUBLISHED  |
| LA20C       | 8*29*73 - 08*31*73  |                   | 160/ 44          | 50   |      | 089B, 139NOSE   | (202)  | LARC 8-FT    | TRANSONIC PRESSURE  |        | 658  | 2107            | PUBLISHED  |
| LA21A       | 8*19*74 - 08*30*74  |                   | 160/ 144         | 55   |      | 089B, 139 NOSE  | ( O )  | LARC LOW     | TURBULANCE PRESSURE |        | 202  |                 | UNASSIGNED |
| LA21B       | 1*29*75 - 02*05*75  |                   | 80/ 88           | 37   |      | 089B, 139 NOSE  | ( O )  | LARC LOW     | TURBULANCE PRESSURE |        | 206  |                 | UNASSIGNED |
| LA22        | 6*19*72 - 06*30*72  |                   | 160/ 152         | 31   |      | JSC O49         | ( O )  | LARC 22-IN   | HELIUM              |        | 405  | 2034            | PUBLISHED  |
| LA23        | 7*31*73 - 08*03*73  |                   | 48/ 32           | 15   |      | L/O-100 ORB.    | ( O )  | LARC LOW     | TURBULANCE PRESSURE |        | 141  | 2070            | PUBLISHED  |
| LA24A       | 11* 9*73 - 11*12*73 |                   | 40/ 20           | 6    |      | 089B, 139 NOSE  | (202)  | LARC UNITARY | PLAN                |        | 1065 |                 | UNASSIGNED |
| LA24B       | 1* 2*74 - 01*07*74  |                   | 40/ 34           | 20   |      | 089B, 139 NOSE  | (202)  | LARC UNITARY | PLAN                |        | 1065 |                 | UNASSIGNED |
| LA25        | 8*30*73 - 09*07*73  |                   | 40/ 48           | 126  |      | 3/139B          | ( 32 ) | LARC 31-IN   | CONT-FLOW HYP.      |        | 100  | 2126            | CANCEL     |
| LA28        | 6*17*74 - 06*20*74  |                   | 40/ 40           | 31   |      | 140A,B ORB      | ( O )  | LTV 4X4-FT   | SUPERSONIC          |        | 498  | 2280            | PUBLISHED  |
| LA31        | 8* 9*73 - 08*16*73  |                   | 48/ 72           | 28   |      | LARC ORB        | ( O )  | LARC 31-IN   | CONT-FLOW HYP.      |        | 098  | 2047            | PUBLISHED  |
| LA32A       | 7*25*73 - 08*03*73  |                   | 180/ 64          | 16   |      | F.S. TILE ARRAY | ( O )  | LARC 31-IN   | CONT-FLOW HYP.      |        | 097  | 2168            | PUBLISHED  |
| LA32B       | 11*28*73 - 12*03*73 |                   | 180/ 120         | 43   |      | F.S. TILE ARRAY | ( O )  | LARC 31-IN   | CONT-FLOW HYP.      |        | 097  | 2168            | PUBLISHED  |
| LA33        | 11*19*73 - 11*26*73 |                   | 40/ 48           | 26   |      | 089B, 139 NOSE  | ( O )  | LARC 31-IN   | CONT-FLOW HYP.      |        | 103  |                 | UNASSIGNED |
| LA34        | 1*17*74 - 01*31*74  |                   | 40/ 112          | 55   |      | F.S. TILE ARRAY | ( O )  | LARC 31-IN   | CONT-FLOW HYP.      |        | 105  | 2328            | PUBLISHED  |
| LA35        | 11*12*73 - 11*13*73 |                   | 16/ 20           | 19   |      | 3/139B          | ( 32 ) | LARC 31-IN   | CONT-FLOW HYP.      |        | 102  | 2127            | PUBLISHED  |
| LA36A       | 11* 5*73 - 11*11*73 |                   | 75/ 75           | 22   |      | 140A,B          | ( 42 ) | LARC 16-FT   | TRANSONIC           |        | 149  |                 | UNASSIGNED |
| LA36B       | 6* 3*75 - 06*05*75  |                   | 75/ 27           | 41   |      | 140A,B          | ( 32 ) | LARC LOW     | TURBULANCE PRESSURE |        | 214  | 2292            | PUBLISHED  |
| LA38A       | 12*14*73 - 12*21*73 |                   | 56/ 56           | 59   |      | 140A,B          | ( O )  | LARC 8-FT    | TRANSONIC PRESSURE  |        | 669  | 2121            | CANCEL     |
| LA38B       | 3*27*74 - 03*29*74  |                   | 48/ 48           | 37   |      | 140A,B          | ( O )  | LARC 8-FT    | TRANSONIC PRESSURE  |        | 676  | 2239            | PUBLISHED  |
| LA39A       | 12*26*73 - 12*28*73 |                   | 50/ 24           | 9    |      | 140A,B          | ( O )  | LARC UNITARY | PLAN                |        | 1075 | 2188            | PUBLISHED  |
| LA39B       | 2*11*74 - 02*15*74  |                   | 50/ 50           | 36   |      | 140A,B          | ( O )  | LARC UNITARY | PLAN                |        | 1075 | 2189            | PUBLISHED  |



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| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | TURNS | REF.          | MODEL | (ID)   | FACILITY                     | WIND | TUNNEL | NO.  | DOCUMENT NO. | STATUS     |
|----------|---------------------|----------------|---------------|-------|---------------|-------|--------|------------------------------|------|--------|------|--------------|------------|
| LA39C    | 4* 1*74 - 04*08*74  |                | 50/ 80        | 26    | 140A,B        |       | ( O )  | LARC UNITARY PLAN            |      |        | 1075 | 2188         | PUBLISHED  |
| LA40     | 5*13*74 - 06*07*74  |                | 40/ 40        | 25    | 139B          |       | ( O )  | LARC 22-IN HELIUM            |      |        | 7426 | 2176         | PUBLISHED  |
| LA42A    | 6*25*74 - 06*25*74  |                | 16/ 8         | 3     | 089B          |       | ( O )  | AEDC B / HYPERSONIC          |      |        | 550  | 2132         | PUBLISHED  |
| LA42B    | 7*27*74 - 07*27*74  |                | 16/ 12        | 7     | 089B          |       | ( O )  | AEDC B / HYPERSONIC          |      |        | 48A  | 2132         | PUBLISHED  |
| LA43A    | 3* 4*74 - 03*22*74  |                | 50/ 20        | 42    | 4/140A,B      |       | ( O )  | LARC UNITARY PLAN            |      |        | 1074 | 2199         | PUBLISHED  |
| LA43B    | 3*18*74 - 03*27*74  |                | 50/ 70        | 28    | 4/140A,B      |       | ( O )  | LARC UNITARY PLAN            |      |        | 1093 | 2199         | PUBLISHED  |
| LA44     | 4* 2*74 - 04*09*74  |                | 160/ 96       | 54    | 4/140A,B      |       | ( O )  | LARC 8-FT TRANSONIC PRESSURE |      |        | 677  | 220C         | PUBLISHED  |
| LA46A    | 9*13*74 - 09*24*74  |                | 96/ 96        | 61    | 140A,B ORB    |       | ( O )  | LARC UNITARY PLAN            |      |        | 1092 | 2228         | PUBLISHED  |
| LA46B    | 9*24*74 - 10*10*74  |                | 88/ 88        | 51    | 140A,B ORB    |       | ( O )  | LARC UNITARY PLAN            |      |        | 1117 | 2228         | PUBLISHED  |
| LA47A    | 1* 2*74 - 01*09*74  |                | 40/ 120       | 43    | 140A/B ORB    |       | ( O )  | LARC 31-IN CONT-FLOW HYP.    |      |        | 104  | 2191         | PUBLISHED  |
| LA47B    | 6*10*74 - 06*24*74  |                | 40/ 88        | 35    | 140A/B ORB    |       | ( O )  | LARC 31-IN CONT-FLOW HYP.    |      |        | 104  | 2191         | PUBLISHED  |
| LA47C    | 7* 8*74 - 07*10*74  |                | 40/ 16        | 18    | 140A/B ORB    |       | ( O )  | LARC 31-IN CONT-FLOW HYP.    |      |        | 104  | 2191         | PUBLISHED  |
| LA48     | 4*10*74 - 04*15*74  |                | 48/ 48        | 99    | 089B-MOD NOSE |       | ( O )  | LARC 8-FT TRANSONIC PRESSURE |      |        | 680  | 2184         | PUBLISHED  |
| LA49A    | 4*24*74 - 04*26*74  |                | 20/ 30        | 37    | 089B-MOD NOSE |       | ( O )  | LARC UNITARY PLAN            |      |        | 1101 | 2182         | PUBLISHED  |
| LA49B    | 7*15*74 - 07*17*74  |                | 20/ 25        | 105   | 089B-MOD NOSE |       | ( O )  | LARC UNITARY PLAN            |      |        | 1111 | 2182         | PUBLISHED  |
| LA51     | 5*24*74 - 05*31*74  |                | 80/ 72        | 140   | 140A,B        |       | ( O )  | LARC 8-FT TRANSONIC PRESSURE |      |        | 684  | 2183         | PUBLISHED  |
| LA52     | 8*26*74 - 08*30*74  |                | 72/ 40        | 38    | 140A,B        |       | ( O )  | LARC 20-IN HYPERSONIC (M=6)  |      |        | 6458 | 2220         | PUBLISHED  |
| LA53A    | 8*12*74 - 08*14*74  |                | 80/ 32        | 3     | 5/140C        |       | ( O )  | LARC 20-IN FREON             |      |        | 220  | 2213         | IN PROCESS |
| LA53B    | 1*12*77 - 01*18*77  |                | 80/ 72        | 16    | 5/140C        |       | ( O )  | LARC 22-IN HELIUM            |      |        | 306  | 2213         | IN PROCESS |
| LA54     | 8*14*74 - 08*19*74  |                | 28/ 28        | 5     | 140C ORB      |       | ( O )  | LARC 20-IN HYPERSONIC (M=6)  |      |        | 6456 | 2213         | IN PROCESS |
| LA56     | 11*11*74 - 11*22*74 |                | 160/ 176      | 147   | VEH. 5        |       | ( O )  | LARC 8-FT TRANSONIC PRESSURE |      |        | 699  | 2224         | PUBLISHED  |
| LA57A    | 10* 2*74 - 10*24*74 |                | 84/ 144       | 58    | 140A,B        |       | ( O )  | LARC 31-IN CONT-FLOW HYP.    |      |        | 114  | 2454         | PUBLISHED  |
| LA57B    | 6* 4*75 - 06*06*75  |                | 84/ 24        | 10    | 140A,B        |       | ( O )  | LARC 31-IN CONT-FLOW HYP.    |      |        | 114  | 2454         | PUBLISHED  |
| LA58     | 9*30*74 - 10*04*74  |                | 49/ 80        | 72    | 140A,B        |       | ( 42 ) | LTV 4X4-FT SUPERSONIC        |      |        | 512  | 2215         | PUBLISHED  |
| LA59     | 12*20*74 - 01*07*75 |                | 96/ 96        | 146   | 4/140A,B      |       | ( 72 ) | LARC 8-FT TRANSONIC PRESSURE |      |        | 703  | 2233         | PUBLISHED  |

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| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.            | MODEL | (ID)  | FACILITY                     | WIND | TUNNEL | NO.  | DOCUMENT NO. | ST ATUS    |
|----------|---------------------|----------------|---------------|------|-----------------|-------|-------|------------------------------|------|--------|------|--------------|------------|
| LA61A    | 8*25*75 - 09*10*75  |                | 40/ 40        | 138  | 140C/REMOTE ELE | ( 44) | ( 44) | LARC LOW TURBULANCE PRESSURE |      |        | 219  | 2278         | CANCEL     |
| LA61B    | 1* 5*76 - 01*14*76  |                | 40/ 96        | 81   | 140C/REMOTE ELE | ( 44) | ( 44) | LARC LOW TURBULANCE PRESSURE |      |        | 228  | 2300         | PUBLISHED  |
| LA62     | 5*14*75 - 05*23*75  |                | 40/ 80        | 301  | 140C/REMOTE ELE | ( 44) | ( 44) | LARC 8-FT TRANSONIC PRESSURE |      |        | 717  | 2264         | PUBLISHED  |
| LA63A    | 7*18*75 - 07*18*75  |                | 40/ 14        | 63   | 140C/REMOTE ELE | ( 44) | ( 44) | LARC UNITARY PLAN            |      |        | 1118 | 2270         | PUBLISHED  |
| LA63B    | 9*12*75 - 09*17*75  |                | 40/ 38        | 191  | 140C/REMOTE ELE | ( 44) | ( 44) | LARC UNITARY PLAN            |      |        | 1151 | 2279         | PUBLISHED  |
| LA66     | 10*20*75 - 10*24*75 |                | 80/ 80        | 26   | 140C/REMOTE ELE | ( 44) | ( 44) | ARC 12-FT PRESSURE           |      |        | 135  | 2281         | PUBLISHED  |
| LA67     | 6*20*75 - 07*02*75  |                | 40/ 120       | 131  | 140C/REMOTE ELE | ( 44) | ( 44) | LTV 4X4-FT SUPERSONIC        |      |        | 552  | 2266         | PUBLISHED  |
| LA68     | 2*26*75 - 03*20*75  |                | 120/ 120      | 26   | 140C ORB        | ( 0)  | ( 0)  | LARC 22-IN HELIUM            |      |        | 439  | 2256         | IN PROCESS |
| LA69     | 4*24*75 - 04*29*75  |                | 64/ 64        | 98   | 5/140C          | ( 72) | ( 72) | LARC 8-FT TRANSONIC PRESSURE |      |        | 714  | 2257         | PUBLISHED  |
| LA70     | 7*28*75 - 08*06*75  |                | 38/ 60        | 299  | 140C/REMOTE ELE | ( 44) | ( 44) | CALSPAN 8-FT TRANSONIC       |      |        | 103  | 2269         | PUBLISHED  |
| LA71B    | 7*21*75 - 07*31*75  |                | 48/ 48        | 30   | 4/140A.B        | ( 69) | ( 69) | LARC UNITARY PLAN            |      |        | 1147 | 2271         | PUBLISHED  |
| LA71A    | 10*17*75 - 10*22*75 |                | 48/ 64        | 15   | 4/140A.B        | ( 69) | ( 69) | LARC UNITARY PLAN            |      |        | 1132 | 2271         | PUBLISHED  |
| LA72     | 3*26*76 - 03*31*76  |                | 72/ 72        | 30   | 4/140A.B        | ( 69) | ( 69) | LARC 8-FT TRANSONIC PRESSURE |      |        | 740  | 2309         | PUBLISHED  |
| LA73A    | 12*18*75 - 12*30*75 |                | 82/ 82        | 14   | 4/140A.B        | ( 69) | ( 69) | LARC LOW TURBULANCE PRESSURE |      |        | 227  | 2298         | PUBLISHED  |
| LA73B    | 12*10*76 - 12*13*75 |                | 16/ 16        | 6    | 4/140A.B        | ( 69) | ( 69) | LARC LOW TURBULANCE PRESSURE |      |        | 238  | 2298         | PUBLISHED  |
| LA75     | 4* 6*76 - 04*16*76  |                | 90/ 90        | 283  | 140C/REMOTE ELE | ( 44) | ( 44) | LARC UNITARY PLAN            |      |        | 1173 | 2318         | PUBLISHED  |
| LA76     | 2*25*76 - 03*06*76  |                | 48/ 128       | 141  | 140C/REMOTE ELE | ( 44) | ( 44) | LTV 4X4-FT SUPERSONIC        |      |        | 573  | 2305         | PUBLISHED  |
| LA77     | 7* 9*76 - 07*24*76  |                | 120/ 151      | 521  | 140C/REMOTE ELE | ( 44) | ( 44) | ARC 11-FT TRANSONIC          |      |        | 200  | 2344         | PUBLISHED  |
| LA78     | 1*15*76 - 01*28*76  |                | 16/ 16        | 4    | 089B            | ( 13) | ( 13) | LARC 4-FT HYPERSONIC         |      |        | 267  | 2311         | PUBLISHED  |
| LA79     | 11*28*75 - 12*11*75 |                | 64/ 64        | 8    | 140C            | ( 0)  | ( 0)  | NSWC HYPERVELOCITY LAB (#8A) |      |        | 1275 | 2291         | IN PROCESS |
| LA80     | 10* 6*75 - 11*07*75 |                | 156/ 156      | 83   | 140C/747        | ( 88) | ( 88) | LARC 7X10-FT HIGH SPEED      |      |        | 999  | 2299         | PUBLISHED  |
| LA81     | 1*14*76 - 01*23*76  |                | 40/ 120       | 54   | ORB/TC (ALT)    | ( 0)  | ( 0)  | LARC LOW TURBULANCE PRESSURE |      |        | 229  | 2296         | PUBLISHED  |
| LA82     | 8* 8*76 - 08*19*76  |                | 30/ 32        | 66   | SUPPORT TARES   | (202) | (202) | CALSPAN 8-FT TRANSONIC       |      |        | 111  | 2374         | PUBLISHED  |
| LA85     | 4* 7*76 - 05*24*76  |                | 88/ 88        | 64   | 140C            | ( 13) | ( 13) | LARC 22-IN HELIUM            |      |        | 445  | 2343         | PUBLISHED  |
| LA87     | 8*26*75 - 08*29*75  |                | 36/ 36        | 4    | 089B            | ( 13) | ( 13) | LARC 4-FT HYPERSONIC         |      |        | 446  | 2311         | PUBLISHED  |

| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.            | MODEL | (ID)  | FACILITY                     | WIND | TUNNEL | NO.  | DOCUMENT NO. | STATUS     |
|----------|---------------------|----------------|---------------|------|-----------------|-------|-------|------------------------------|------|--------|------|--------------|------------|
| LA88     | 5*21*75 - 05*21*75  |                | 16/ 16        | 6    | 089B            |       | ( 13) | LARC 20-IN HYPERSONIC (M=6)  |      |        | 6468 | 2311         | PUBLISHED  |
| LA89     | 10* 4*76 - 10*18*76 |                | 160/ 208      | 220  | OV101 (ALT)     |       | (201) | ARC 11-FT TRANSONIC          |      |        | 213  | 2353         | PUBLISHED  |
| LA91     | 9* 3*76 - 09*15*76  |                | 80/ 104       | 214  | 140C/REMOTE ELE |       | ( 44) | LARC 8-FT TRANSONIC PRESSURE |      |        | 758  | 2352         | PUBLISHED  |
| LA92     | 11*11*76 - 11*19*76 |                | 80/ 152       | 67   | OV101           |       | (201) | LARC 8-FT TRANSONIC PRESSURE |      |        | 764  | 2362         | IN PROCESS |
| LA93     | 3*16*77 - 04*21*77  |                | 80/ 56        | 34   | NOSE CONE       |       | ( 0)  | LARC 31-IN CONT-FLOW HYP.    |      |        | 130  | 2383         | IN PROCESS |
| LA95     | 6* 6*77 - 10*19*77  |                | 160/ 160      | 14   | NOSE CONE       |       | ( 0)  | LARC 20-IN FREON             |      |        | 330  |              | UNASSIGNED |
| LA97A    | 4*18*77 - 08*15*77  |                | 80/ 400       | 116  | L.E. VORTEX     |       | ( 0)  | MSFC 32-IN LUDWIG (HIGH RN)  |      |        | 041  |              | UNASSIGNED |
| LA97B    | 10* 1*78 - 06*01*79 |                | 80/ 400       | 0    | L.E. VORTEX     |       | ( 0)  | MSFC 32-IN LUDWIG (HIGH RN)  |      |        | 041  |              | UNASSIGNED |
| LA98     | 1*28*77 - 02*02*77  |                | 32/ 64        | 42   | L.E. VORTEX     |       | ( 0)  | LARC LOW TURBULANCE PRESSURE |      |        | 240  |              | UNASSIGNED |
| LA99     | 2*17*77 - 02*28*77  |                | 104/ 104      | 147  | TAILCONE        |       | (201) | LARC 8-FT TRANSONIC PRESSURE |      |        | 769  | 2373         | PUBLISHED  |
| LA100A   | 12*15*76 - 12*17*76 |                | 14/ 14        | 4    | GENERIC         |       | ( 0)  | LARC LOW TURBULANCE PRESSURE |      |        | 239  |              | UNASSIGNED |
| LA100B   | 2* 2*77 - 02*07*77  |                | 25/ 25        | 24   | GENERIC         |       | ( 0)  | LARC LOW TURBULANCE PRESSURE |      |        | 241  |              | UNASSIGNED |
| LA101    | 5*18*77 - 05*24*77  |                | 55/ 55        | 200  | 140C/REMOTE ELE |       | ( 44) | LARC UNITARY PLAN            |      |        | 1194 | 2390         | PUBLISHED  |
| LA102    | 12* 7*78 - 01*04*79 |                | 40/ 120       | 29   | STING EFFECT    |       | ( 0)  | LARC 22-IN HELIUM            |      |        | 463  |              | UNASSIGNED |
| LA103    | 3*25*77 - 04*04*77  |                | 80/ 75        | 88   | SUPPORT TARES   |       | ( 0)  | CALSPAN 8-FT TRANSONIC       |      |        | 113  | 2374         | PUBLISHED  |
| LA110    | 8* 8*77 - 08*10*77  |                | 30/ 30        | 60   | 140C SILTS      |       | ( 44) | LARC UNITARY PLAN            |      |        | 1212 | 2396         | PUBLISHED  |
| LA111    | 8* 3*77 - 08*05*77  |                | 95/ 40        | 95   | 140C SILTS      |       | ( 44) | LARC 8-FT TRANSONIC PRESSURE |      |        | 786  | 2395         | PUBLISHED  |
| LA112    | 2* 3*77 - 02*05*77  |                | 24/ 24        | 0    | 5/140C          |       | ( 0)  | LARC 20-IN HYPERSONIC (M=6)  |      |        | 6502 |              | UNASSIGNED |
| LA113    | 8* 5*77 - 09*08*77  |                | 32/ 28        | 17   | 5/140C          |       | ( 72) | LARC 8-FT TRANSONIC PRESSURE |      |        | 787  | 2397         | PUBLISHED  |
| LA114    | 8*23*77 - 08*31*77  |                | 30/ 60        | 70   | 140C SILTS      |       | ( 44) | LARC UNITARY PLAN            |      |        | 1217 | 2399         | PUBLISHED  |
| LA115    | 2* 1*78 - 02*06*78  |                | 45/ 45        | 75   | 140C/REMOTE ELE |       | ( 44) | LARC 8-FT TRANSONIC PRESSURE |      |        | 803  | 2409         | PUBLISHED  |
| LA116    | 2* 6*78 - 02*06*78  |                | 32/ 32        | 0    | 140C            |       | (201) | LARC 8-FT TRANSONIC PRESSURE |      |        | 804  | 2411         | CANCEL     |
| LA124    | 6* 7*77 - 06*10*77  |                | 40/ 40        | 19   | 5/140C          |       | ( 74) | LARC UNITARY PLAN            |      |        | 1207 | 2426         | PUBLISHED  |
| LA125    | 7* 3*78 - 07*05*78  |                | 16/ 48        | 41   | VEH. 102        |       | (105) | LARC UNITARY PLAN            |      |        | 1243 | 2432         | PUBLISHED  |
| LA131    | 1* 8*80 - 02*01*80  |                | 80/ 144       | 624  | VEH 102         |       | (106) | LARC UNITARY PLAN            |      |        | 1299 | 2478         | PUBLISHED  |

| TEST<br>NO. | SCHED.              | TESTING<br>COMPL. | HOURS<br>EST/CHG | RUNS     | REF.  | MODEL                        | (ID) | FACILITY | WIND       | TUNNEL | NO. | DOCUMENT<br>NO. | ST ATUS |
|-------------|---------------------|-------------------|------------------|----------|-------|------------------------------|------|----------|------------|--------|-----|-----------------|---------|
| LA132       | 10*11*79 - 11*01*79 | 40/ 80            | 18               | VEH 102  | ( 89) | LARC 16-FT TRANSONIC         | 341  | 2471     | PUBLISHED  |        |     |                 |         |
| LA140       | 12*26*79 - 01*03*80 | 80/ 80            | 17               | VEH. 102 | (105) | LARC 16-FT TRANSONIC         | 342  | 2475     | PUBLISHED  |        |     |                 |         |
| LA141A      | 1*12*80 - 02*01*80  | 80/ 148           | 0                | VEH 102  | ( 74) | LARC 20-IN HYPERSONIC (M=6)  | 6546 | 2477     | PUBLISHED  |        |     |                 |         |
| LA141B      | 3*18*80 - 05*01*80  | 80/ 200           | 0                | VEH 102  | ( 74) | LARC 20-IN HYPERSONIC (M=6)  | 6546 | 2477     | PUBLISHED  |        |     |                 |         |
| LA141C      | 6*22*80 - 07*01*80  | 80/ 10            | 0                | VEH 102  | ( 72) | LARC 20-IN HYPERSONIC (M=6)  | 6550 |          | UNASSIGNED |        |     |                 |         |
| LA142       | 2* 1*80 - 03*01*80  | 80/ 80            | 0                | VEH 102  | ( 74) | LARC 20-IN FREON             | 390  |          | UNASSIGNED |        |     |                 |         |
| LA143       | 12*21*79 - 01*08*80 | 80/ 88            | 0                | VEH 102  | (106) | LARC 8-FT TRANSONIC PRESSURE | 865  |          | UNASSIGNED |        |     |                 |         |
| LA144       | 7*28*80 - 08*01*80  | 80/ 138           | 198              | VEH 102  | (106) | LTV 4X4-FT SUPERSONIC        | 742  | 2484     | PUBLISHED  |        |     |                 |         |
| LA145A      | 9*28*81 - 10*08*81  | 80/ 90            | 32               | 140C     | (203) | LARC UNITARY PLAN            | 1390 | 2336     | PUBLISHED  |        |     |                 |         |
| LA145B      | 9*11*81 - 09*17*81  | 80/ 50            | 37               | 140C     | (203) | LARC UNITARY PLAN            | 1345 | 2336     | PUBLISHED  |        |     |                 |         |

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PHASE C/D SSV WIND TUNNEL TESTING PER TEST NUMBER

| TEST NO. | SCHED.              | TESTING | HOURS EST/CHG | RUNS | REF.          | MODEL | (ID)  | FACILITY     | WIND       | TUNNEL | NO. | NO. | DOCUMENT | STATUS     |
|----------|---------------------|---------|---------------|------|---------------|-------|-------|--------------|------------|--------|-----|-----|----------|------------|
| AA1A     | 2*12*74 - 02*25*74  |         | 64/ 64        | 28   | 4/140A.B      |       | ( 49) | ARC 3.5-FT   | HYPERSONIC |        | 186 |     |          | UNASSIGNED |
| AA1B     | 4* 4*74 - 04*06*74  |         | 64/ 64        | 13   | 4/140A.B      |       | ( 49) | ARC 3.5-FT   | HYPERSONIC |        | 186 |     |          | UNASSIGNED |
| AA2      | 10*30*75 - 11*01*75 |         | 40/ 40        | 0    | TUNNEL CALIB. |       | ( 0)  | ARC 40X80-FT | SUBSONIC   |        | 471 |     |          | UNASSIGNED |
| AA3A     | 1*10*71 - 01*31*71  |         | 300/ 300      | 0    | PRE-ATP       |       | ( 0)  | ARC 11-FT    | TRANSONIC  |        | 608 |     | 2255     | PUBLISHED  |
| AA3B     | 2* 1*71 - 02*15*71  |         | 100/ 100      | 0    | PRE-ATP       |       | ( 0)  | ARC 9X7-FT   | SUPERSONIC |        | 608 |     | 2255     | PUBLISHED  |

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**APPENDIX A**

**TABLE A2 - WIND TUNNEL TESTING BY TEST NUMBER - HEATING TESTS**

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## PHASE C/D SSV WIND TUNNEL TESTING PER TEST NUMBER

| TEST NO. | SCHED.   | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.        | MODEL | (ID)  | FACILITY          | WIND             | TUNNEL | NO.   | DOCUMENT NO. | STATUS     |
|----------|----------|----------------|---------------|------|-------------|-------|-------|-------------------|------------------|--------|-------|--------------|------------|
| OH1A-1   | 9*19*72  | - 09*26*72     | 10/ 10        | 130  | PRE-ATP/001 |       | ( 3)  | LARC MACH 8       | VARIABLE DENSITY |        | 3234  |              | UNASSIGNED |
| OH1A-2   | 9*19*72  | - 09*26*72     | 10/ 100       | 120  | PRE-ATP/001 |       | ( 4)  | LARC MACH 8       | VARIABLE DENSITY |        | 3234  |              | UNASSIGNED |
| OH1A-3   | 9*19*72  | - 09*26*72     | 10/ 100       | 120  | PRE-ATP/001 |       | ( 5)  | LARC MACH 8       | VARIABLE DENSITY |        | 3234  |              | UNASSIGNED |
| OH1A-4   | 9*19*72  | - 09*26*72     | 10/ 100       | 120  | PRE-ATP/001 |       | ( 38) | LARC MACH 8       | VARIABLE DENSITY |        | 3234  |              | UNASSIGNED |
| OH1B     | 11* 6*72 | - 11*08*72     | 40/ 21        | 35   | PRE-ATP/001 |       | ( 4)  | LARC MACH 8       | VARIABLE DENSITY |        | 3283  |              | UNASSIGNED |
| OH2      | 4*18*73  | - 06*01*73     | 40/ 144       | 81   | TPS TILES   |       | ( 15) | ARC 3.5-FT        | HYPERSONIC       |        | 158   | 2035         | PUBLISHED  |
| OH3A     | 6*28*73  | - 06*30*73     | 40/ 16        | 36   | 3/139B      |       | ( 21) | AEDC B /          | HYPERSONIC       |        | 288   | 2100         | PUBLISHED  |
| OH3B     | 7* 9*73  | - 07*11*73     | 40/ 23        | 147  | 3/139B      |       | ( 21) | AEDC B /          | HYPERSONIC       |        | 289   | 2100         | PUBLISHED  |
| OH4A     | 11*12*73 | - 12*05*73     | 20/ 20        | 57   | 3/139       |       | ( 29) | AEDC B /          | HYPERSONIC       |        | 352   | 2154         | PUBLISHED  |
| OH4B     | 9*29*73  | - 10*04*73     | 48/ 38        | 224  | 3/139       |       | ( 22) | AEDC B /          | HYPERSONIC       |        | 352   | 2099         | PUBLISHED  |
| OH4C     | 9*26*73  | - 09*26*73     | 8/ 8          | 60   | 3/139B      |       | ( 21) | AEDC B /          | HYPERSONIC       |        | 352   | 2225         | PUBLISHED  |
| CH6      | 6* 6*74  | - 02*11*74     | 48/ 56        | 39   | 3/139       |       | ( 22) | ARC 3.5-FT        | HYPERSONIC       |        | 183   | 2151         | PUBLISHED  |
| OH8F     | 5*15*74  | - 07*16*74     | 340/ 334      | 66   | 2A/089B     |       | ( 25) | MSFC IMPULSE BASE | FLOW FAC.        |        | 027   | 2382         | PUBLISHED  |
| OH9      | 9*13*73  | - 09*21*73     | 16/ 16        | 61   | 3/139       |       | ( 29) | AEDC B /          | HYPERSONIC       |        | 353   | 2251         | PUBLISHED  |
| OH10     | 8*17*73  | - 09*04*73     | 96/ 104       | 35   | 3/139       |       | ( 26) | ARC 3.5-FT        | HYPERSONIC       |        | 171   | 2085         | PUBLISHED  |
| OH11     | 10*24*73 | - 11*01*73     | 40/ 37        | 23   | 3/139       |       | ( 29) | AEDC F /          | HYPERSONIC       |        | VA354 | 2141         | PUBLISHED  |
| OH12     | 10*29*73 | - 12*13*73     | 80/ 145       | 32   | 3/139       |       | ( 37) | CALSPAN           | HYPERSONIC SHOCK |        | 100   | 2164         | PUBLISHED  |
| OH13     | 6*13*73  | - 06*13*73     | 8/ 8          | 18   | 2A/089B     |       | ( 41) | LARC MACH 8       | VARIABLE DENSITY |        | 644   | 2096         | PUBLISHED  |
| OH14     | 10*17*73 | - 10*18*73     | 16/ 16        | 29   | 3A/139B     |       | ( 50) | LARC MACH 8       | VARIABLE DENSITY |        | 648   | 2117         | PUBLISHED  |
| OH15     | 9*12*73  | - 09*20*73     | 64/ 96        | 32   | FLAT PLATE  |       | ( 53) | ARC 3.5-FT        | HYPERSONIC       |        | 173   | 2385         | PUBLISHED  |
| OH25A    | 8*21*74  | - 08*22*74     | 12/ 12        | 82   | 3/139B      |       | ( 21) | AEDC B /          | HYPERSONIC       |        | 83A   | 2252         | PUBLISHED  |
| OH25B    | 1*30*75  | - 02*03*75     | 24/ 23        | 153  | 5/140C      |       | ( 56) | AEDC B /          | HYPERSONIC       |        | 83A   | 2366         | PUBLISHED  |
| OH25     | 7*22*74  | - 07*29*74     | 80/ 96        | 56   | 4/140B      |       | ( 22) | ARC 3.5-FT        | HYPERSONIC       |        | 199   | 2193         | PUBLISHED  |
| OH38     | 6*21*74  | - 07*18*74     | 160/ 320      | 91   | 4/140B      |       | ( 61) | ARC 3.5-FT        | HYPERSONIC       |        | 198   | 2171         | PUBLISHED  |
| OH39A    | 11*21*74 | - 11*28*74     | 84/ 59        | 622  | 5/140C      |       | ( 60) | AEDC B /          | HYPERSONIC       |        | 74A   | 2241         | PUBLISHED  |

| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.          | MODEL | (ID)  | FACILITY                     | WIND | TUNNEL | NO.     | DOCUMENT NO. | STATUS    |
|----------|---------------------|----------------|---------------|------|---------------|-------|-------|------------------------------|------|--------|---------|--------------|-----------|
| OH39B    | 1* 8*75 - 01*09*75  |                | 12/ 13        | 80   | 5/140C        |       | ( 60) | AEDC B / HYPERSONIC          |      |        | 74A     | 2241         | PUBLISHED |
| OH40     | 1*30*73 - 02*05*73  |                | 36/ 40        | 52   | 2A/089B       |       | ( 31) | LARC MACH 8 VARIABLE DENSITY |      |        | 3619    | 2049         | PUBLISHED |
| OH41A    | 3*19*73 - 03*28*73  |                | 40/ 64        | 78   | 2A/089B       |       | ( 33) | LARC MACH 8 VARIABLE DENSITY |      |        | 3778    | 2075         | PUBLISHED |
| OH41B    | 5* 8*73 - 05*10*73  |                | 40/ 24        | 20   | 2A/089B       |       | ( 38) | LARC MACH 8 VARIABLE DENSITY |      |        | 4060/72 | 2076         | PUBLISHED |
| OH42A    | 5*14*73 - 05*16*73  |                | 20/ 20        | 20   | 3/139, 139A   |       | ( 46) | LARC MACH 8 VARIABLE DENSITY |      |        | 4080    | 2101         | PUBLISHED |
| OH42B    | 5*25*73 - 06*01*73  |                | 40/ 48        | 64   | 3/139, 139A   |       | ( 46) | LARC MACH 8 VARIABLE DENSITY |      |        | 4080    | 2101         | PUBLISHED |
| OH42C    | 6*14*73 - 06*15*73  |                | 20/ 16        | 26   | 3/139A, W/CAN |       | ( 46) | LARC MACH 8 VARIABLE DENSITY |      |        | 4080    | 2101         | PUBLISHED |
| OH43     | 12* 2*73 - 12*21*73 |                | 160/ 128      | 92   | TPS TILES     |       | ( 15) | ARC 3.5-FT HYPERSONIC        |      |        | 182     | 2250         | PUBLISHED |
| OH44     | 10*24*73 - 10*30*73 |                | 180/ 80       | 46   | FLAT PLATE    |       | ( 53) | ARC 3.5-FT HYPERSONIC        |      |        | 177     | 2386         | PUBLISHED |
| OH45     | 11* 2*73 - 11*09*73 |                | 40/ 46        | 22   | 3A/139B       |       | ( 50) | LARC 20-IN FREON             |      |        | 121     | 2109         | PUBLISHED |
| OH46     | 11*12*73 - 12*07*73 |                | 40/ 72        | 100  | 4/140B        |       | ( 90) | LARC MACH 8 VARIABLE DENSITY |      |        | 4556    | 2350         | PUBLISHED |
| OH49A    | 4* 3*74 - 04*06*74  |                | 216/ 17       | 87   | 3/139B        |       | ( 22) | AEDC B / HYPERSONIC          |      |        | 525     | 2355         | PUBLISHED |
| OH49B    | 7* 2*74 - 07*12*74  |                | 72/ 67        | 454  | 4/140B        |       | ( 22) | AEDC B / HYPERSONIC          |      |        | 57A     | 2222         | PUBLISHED |
| OH50A    | 3*29*74 - 04*11*74  |                | 8/ 16         | 66   | 5/140C        |       | ( 82) | AEDC B / HYPERSONIC          |      |        | 526     | 2285         | PUBLISHED |
| OH50B    | 7*12*74 - 07*17*74  |                | 36/ 27        | 220  | 5/140C        |       | ( 83) | AEDC B / HYPERSONIC          |      |        | 58A     | 2358         | PUBLISHED |
| OH51-1   | 6*26*74 - 07*03*74  |                | 24/ 30        | 50   | 3/139B        |       | ( 64) | LARC 31-IN CONT-FLOW HYP.    |      |        | 112     | 2368         | PUBLISHED |
| OH51-2   | 6*26*74 - 07*03*74  |                | 12/ 180       | 280  | 3/139B        |       | ( 46) | LARC 31-IN CONT-FLOW HYP.    |      |        | 112     | 2368         | PUBLISHED |
| OH51-3   | 6*26*74 - 07*03*74  |                | 12/ 100       | 100  | 4/140B        |       | ( 90) | LARC 31-IN CONT-FLOW HYP.    |      |        | 112     | 2368         | PUBLISHED |
| OH52     | 5* 6*74 - 05*15*74  |                | 16/ 16        | 32   | 3/139B        |       | ( 29) | AEDC B / HYPERSONIC          |      |        | 524     | 2330         | PUBLISHED |
| OH53A    | 4* 7*76 - 04*13*76  |                | 40/ 40        | 39   | 5/140C        |       | ( 83) | ARC 3.5-FT HYPERSONIC        |      |        | 216     | 2317         | PUBLISHED |
| OH53B    | 4*14*76 - 04*23*76  |                | 40/ 80        | 23   | 5/140C        |       | ( 82) | ARC 3.5-FT HYPERSONIC        |      |        | 216     | 2317         | PUBLISHED |
| OH54A    | 10* 2*74 - 10* 8*74 |                | 36/ 32        | 117  | 5/140C        |       | ( 82) | AEDC B / HYPERSONIC          |      |        | 82A     | 2301         | PUBLISHED |
| OH54B    | 7*21*75 - 07*25*75  |                | 48/ 52        | 124  | 5/140C        |       | ( 82) | AEDC B / HYPERSONIC          |      |        | 82A     | 2342         | PUBLISHED |
| OH54C    | 8*26*75 - 09*02*75  |                | 48/ 48        | 120  | 5/140C        |       | ( 82) | AEDC B / HYPERSONIC          |      |        | 82A     | 2342         | PUBLISHED |
| OH56     | 12* 6*77 - 12*10*77 |                | 48/ 36        | 255  | WING TIP SEAL |       | ( 91) | AEDC B / HYPERSONIC          |      |        | R3A     | 2410         | PUBLISHED |



| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | MODEL REF.     | (ID)   | FACILITY                  | WIND | TUNNEL | NO.     | DOCUMENT NO. | STATUS    |
|----------|---------------------|----------------|---------------|------|----------------|--------|---------------------------|------|--------|---------|--------------|-----------|
| OH57A    | 10* 6*76 - 20*06*76 |                | 13/ 11        | 40   | 140C           | ( 92 ) | AEDC B / HYPERSONIC       |      |        | K3A     | 2367         | PUBLISHED |
| OH57B    | 12* 4*76 - 12*05*76 |                | 26/ 34        | 14   | 140C           | ( 92 ) | AEDC B / HYPERSONIC       |      |        | K3A     | 2367         | PUBLISHED |
| OH58     | 3*24*78 - 04*21*78  |                | 120/ 168      | 58   | ELEV/ELEV SEAL | ( 93 ) | ARC 3.5-FT HYPERSONIC     |      |        | 235     | 2417         | PUBLISHED |
| OH60     | 5*12*75 - 05*12*75  |                | 12/ 12        | 139  | 5/140C         | ( 83 ) | AEDC B / HYPERSONIC       |      |        | B7A     | 2356         | PUBLISHED |
| OH64     | 4*14*75 - 06*20*75  |                | 200/ 450      | 200  | 2A/089B        | ( 25 ) | LERC SPACE POWER FACILITY |      |        | OH64    | 2288         | PUBLISHED |
| OH66     | 8*30*76 - 10*17*76  |                | 120/ 120      | 30   | 5/140C         | ( 66 ) | CALSPAN HYPERSONIC SHOCK  |      |        | 131     | 2359         | PUBLISHED |
| OH69     | 11*14*75 - 12*11*75 |                | 84/ 87        | 246  | 5/140C         | ( 82 ) | AEDC B / HYPERSONIC       |      |        | E9A     | 2321         | PUBLISHED |
| OH74     | 6* 3*75 - 06*12*75  |                | 12/ 12        | 0    | 5/140C         | ( 56 ) | AEDC B / HYPERSONIC       |      |        | B7A     | 2263         | PUBLISHED |
| OH75     | 9* 2*75 - 09*03*75  |                | 14/ 13        | 44   | 5/140C         | ( 82 ) | AEDC B / HYPERSONIC       |      |        | E3A     | 2303         | PUBLISHED |
| OH78     | 7* 2*76 - 11*24*76  |                | 480/ 1        | 0    | 5/140C         | ( 65 ) | JSC VAC. CHAMBER A        |      |        | 56-A-76 | 2371         | PUBLISHED |
| OH79     | 6* 1*78 - 08*24*78  |                | 288/ 288      | 0    | 5/140C         | ( 65 ) | JSC VAC. CHAMBER A        |      |        | 61-A-78 | 2443         | PUBLISHED |
| OH84A-1  | 4*20*77 - 04*21*77  |                | 20/ 16        | 81   | 5/140C         | ( 60 ) | AEDC B / HYPERSONIC       |      |        | R4A     | 2388         | PUBLISHED |
| OH84A-2  | 4*20*77 - 04*21*77  |                | 5/ 9          | 16   | 5/140C         | ( 83 ) | AEDC B / HYPERSONIC       |      |        | R4A     | 2388         | PUBLISHED |
| OH84B    | 5* 0*79 - 06*00*79  |                | 72/ 72        | 0    | 5/140C         | ( 60 ) | AEDC B / HYPERSONIC       |      |        | B67     | 2464         | PUBLISHED |
| OH84C    | 6*15*79 - 06*28*79  |                | 80/ 80        | 0    | 5/140C         | ( 60 ) | ARC 3.5-FT HYPERSONIC     |      |        | 246     | 2468         | PUBLISHED |
| OH90     | 3* 2*78 - 03*11*78  |                | 48/ 64        | 162  | ELEV/ELEV      | ( 94 ) | AEDC B / HYPERSONIC       |      |        | P4A     | 2451         | PUBLISHED |
| OH98A    | 6*17*76 - 06*23*76  |                | 43/ 44        | 284  | 5/140C         | ( 60 ) | AEDC B / HYPERSONIC       |      |        | J7A     | 2340         | PUBLISHED |
| OH98B    | 7*26*76 - 07*26*76  |                | 20/ 13        | 98   | 5/140C         | ( 60 ) | AEDC B / HYPERSONIC       |      |        | J74     | 2340         | PUBLISHED |
| OH102A   | 10*25*78 - 11*29*78 |                | 8/ 13         | 0    | 5/140C         | ( 56 ) | AEDC B / HYPERSONIC       |      |        | B65     | 2455         | PUBLISHED |
| OH103A   | 2*20*78 - 02*21*78  |                | 12/ 8         | 72   | VEH. 5 F'BODY  | ( 83 ) | AEDC B / HYPERSONIC       |      |        | V2C     | 2420         | PUBLISHED |
| OH103B   | 4*27*78 - 04*28*78  |                | 24/ 12        | 53   | 5/140C         | ( 60 ) | AEDC D / HYPERSONIC       |      |        | V2C     | 2427         | PUBLISHED |
| OH105A   | 5*15*79 - 06*20*79  |                | 24/ 24        | 0    | 5/140C         | ( 60 ) | AEDC B / HYPERSONIC       |      |        | B67     | 2464         | PUBLISHED |
| OH105B   | 7*23*79 - 08*01*79  |                | 24/ 180       | 0    | 5/140C         | ( 60 ) | ARC 3.5-FT HYPERSONIC     |      |        | 247     | 2468         | PUBLISHED |
| OH107    | 1* 7*81 - 01*08*81  |                | 12/ 12        | 0    | ELEV/ELEV      | ( 94 ) | AEDC B / HYPERSONIC       |      |        | B17     | 2492         | PUBLISHED |
| OH108    | 12*15*80 - 01*15*81 |                | 200/ 139      | 43   | ELEV/ELEV      | ( 93 ) | ARC 3.5-FT HYPERSONIC     |      |        | 254     | 2494         | PUBLISHED |

| TEST<br>NO. | SCHED.   | TESTING<br>COMPL. | HOURS<br>EST/CHG | RUNS | REF.       | MODEL | (ID)  | FACILITY   | WIND       | TUNNEL | NO. | DOCUMENT<br>NO. | ST ATUS   |
|-------------|----------|-------------------|------------------|------|------------|-------|-------|------------|------------|--------|-----|-----------------|-----------|
| DH109       | 10*27*80 | - 11*24*80        | 48/ 40           | 0    | 5/140C     |       | ( 56) | AEDC B /   | HYPERSONIC |        | G9  | 2490            | PUBLISHED |
| DH110       | 11*17*80 | - 01*30*81        | 80/ 200          | 0    | 5/140C     |       | ( 60) | ARC 3.5-FT | HYPERSONIC |        | 253 | 2495            | PUBLISHED |
| DH111       | 9*24*81  | - 09*30*81        | 32/ 32           | 0    | 5/140C     |       | ( 60) | AEDC B /   | HYPERSONIC |        | 1C  | 2496            | PUBLISHED |
| DH400       | 8* 1*79  | - 09*01*79        | 36/ 36           | 124  | 140C SILTS |       | ( 92) | ARC 11-FT  | TRANSONIC  |        | B65 | 2472            | PUBLISHED |

PHASE C/D SSV WIND TUNNEL TESTING PER TEST NUMBER

AUG 01, 1984

| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.      | MODEL | (ID)  | FACILITY                     | WIND | TUNNEL | NO.  | NO.        | DOCUMENT STATUS |
|----------|---------------------|----------------|---------------|------|-----------|-------|-------|------------------------------|------|--------|------|------------|-----------------|
| IH1      | 12* 3*73 - 12*14*73 |                | 100/ 100      | 44   | 3/139     |       | ( 22) | LARC UNITARY PLAN            |      |        | 1071 | 2153       | PUBLISHED       |
| IH2      | 9* 4*73 - 09*11*73  |                | 80/ 104       | 21   | 3/139     |       | ( 26) | ARC 3.5-FT HYPERSONIC        |      |        | 171  | 2085       | PUBLISHED       |
| IH3      | 10*31*73 - 11*09*73 |                | 128/ 128      | 79   | 3/139     |       | ( 22) | ARC 3.5-FT HYPERSONIC        |      |        | 178  | 2136       | PUBLISHED       |
| IH4      | 11*12*73 - 11*16*73 |                | 40/ 64        | 47   | 3/139     |       | ( 26) | LARC UNITARY PLAN            |      |        | 1059 | 2138       | PUBLISHED       |
| IH5      | 1*21*74 - 07*22*74  |                | 120/ 105      | 106  | 2A/089B   |       | ( 19) | CALSPAN 32-IN LUDWIG         |      |        | 181  | 2308       | PUBLISHED       |
| IH11     | 4* 1*78 - 04*18*78  |                | 80/ 64        | 0    | 5/140C    |       | ( 84) | LERC 10X10-FT SUPERSONIC     |      |        | 045  | 2428       | PUBLISHED       |
| IH15     | 8*13*73 - 08*17*73  |                | 64/ 72        | 30   | 2A/089B   |       | ( 41) | ARC 3.5-FT HYPERSONIC        |      |        | 172  | 2098       | PUBLISHED       |
| IH16     | 7* 6*73 - 07*13*73  |                | 35/ 80        | 12   | 2A/089B   |       | ( 41) | LARC UNITARY PLAN            |      |        | 1041 | 2166       | PUBLISHED       |
| IH17     | 10* 9*73 - 10*16*73 |                | 40/ 48        | 59   | 2A/089B   |       | ( 41) | LARC MACH 8 VARIABLE DENSITY |      |        | 646  | 2105       | PUBLISHED       |
| IH18     | 10*19*73 - 10*30*73 |                | 40/ 40        | 22   | 2A/089B   |       | ( 41) | LARC 20-IN FREON             |      |        | 118  | 2110       | PUBLISHED       |
| IH19A    | 12*14*73 - 12*26*73 |                | 40/ 40        | 22   | 2A/089B   |       | ( 50) | LARC HYPERSONIC NITROGEN     |      |        | 28   | 2157       | PUBLISHED       |
| IH19B    | 12*27*73 - 01*08*74 |                | 20/ 40        | 22   | 2A/089B   |       | ( 50) | LARC HYPERSONIC NITROGEN     |      |        | 28   | 2157       | PUBLISHED       |
| IH20     | 1*18*74 - 02*06*74  |                | 192/ 192      | 105  | 3/139     |       | ( 22) | ARC 3.5-FT HYPERSONIC        |      |        | 185  | 2148       | PUBLISHED       |
| IH21     | 10*29*73 - 12*13*73 |                | 80/ 145       | 31   | 3/139     |       | ( 37) | CALSPAN HYPERSONIC SHOCK     |      |        | 100  | 2164       | PUBLISHED       |
| IH27     | 9* 7*74 - 09*25*74  |                | 80/ 196       | 65   | TPS TILES |       | ( 15) | ARC 3.5-FT HYPERSONIC        |      |        | 200  | 2210       | PUBLISHED       |
| IH28-1   | 5*20*74 - 05*24*74  |                | 80/ 50        | 24   | 2A/089B   |       | ( 50) | ARC 3.5-FT HYPERSONIC        |      |        | 195  | 2180       | PUBLISHED       |
| IH28-2   | 5*20*74 - 05*24*74  |                | 30/ 38        | 15   | 2A/089B   |       | ( 50) | ARC 3.5-FT HYPERSONIC        |      |        | 195  | 2180       | PUBLISHED       |
| IH33A    | 10*14*74 - 10*18*74 |                | 32/ 32        | 10   | 5/140C    |       | ( 37) | CALSPAN HYPERSONIC SHOCK     |      |        | 120  | 2249       | PUBLISHED       |
| IH33B    | 12* 5*74 - 12*19*74 |                | 48/ 80        | 24   | 5/140C    |       | ( 37) | CALSPAN HYPERSONIC SHOCK     |      |        | 131  | 2249       | PUBLISHED       |
| IH34     | 5* 5*75 - 09*03*75  |                | 240/ 264      | 57   | 5/140C    |       | ( 19) | LERC 10X10-FT SUPERSONIC     |      |        | 038  | 2282       | PUBLISHED       |
| IH39     | 9*22*76 - 04*14*77  |                | 240/ 226      | 163  | 5/140C    |       | ( 19) | LERC 10X10-FT SUPERSONIC     |      |        | 041  | 2435       | PUBLISHED       |
| IH41A    | 3*31*75 - 5*21*75   |                | 48/ 57        | 318  | 5/140C    |       | ( 60) | AEDC A / SUPERSONIC          |      |        | 4A   | 2240       | PUBLISHED       |
| IH41B    | 12*11*75 - 01*09*76 |                | 78/ 80        | 300  | 5/140C    |       | ( 60) | AEDC A / SUPERSONIC          |      |        | 4A   | 2295       | PUBLISHED       |
| IH42     | 4*26*76 - 05*26*76  |                | 192/ 218      | 57   | 5/140C    |       | ( 56) | ARC 3.5-FT HYPERSONIC        |      |        | 217  | UNASSIGNED |                 |
| IH43     | 12*17*75 - 02*23*76 |                | 120/ 250      | 60   | 5/140C    |       | ( 59) | CALSPAN HYPERSONIC SHOCK     |      |        | 189  | 2319       | PUBLISHED       |

| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.           | MODEL | (ID)  | FACILITY                 | WIND | TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|----------|---------------------|----------------|---------------|------|----------------|-------|-------|--------------------------|------|--------|-----|--------------|-----------|
| IH47     | 3* 8*76 - 03*19*76  |                | 40/ 31        | 178  | 5/140C         |       | ( 60) | AEDC A / SUPERSONIC      |      |        | J3A | 2312         | PUBLISHED |
| IH48     | 4*17*75 - 05*08*75  |                | 240/ 256      | 125  | 5/140C         |       | ( 60) | ARC 3.5-FT HYPERSONIC    |      |        | 211 | 2248         | PUBLISHED |
| IH51A    | 7*14*77 - 07*27*77  |                | 80/ 118       | 62   | FLAT PLATE     |       | ( 58) | ARC 3.5-FT HYPERSONIC    |      |        | 228 | 2393         | PUBLISHED |
| IH51B    | 7*15*78 - 07*24*78  |                | 60/ 60        | 0    | FLAT PLATE     |       | ( 58) | ARC 3.5-FT HYPERSONIC    |      |        | 239 | 2429         | PUBLISHED |
| IH51C    | 12*26*78 - 02*16*79 |                | 500/ 632      | 0    | FLAT PLATE     |       | ( 58) | ARC 3.5-FT HYPERSONIC    |      |        | 241 | 2448         | PUBLISHED |
| IH51D    | 5* 1*79 - 06*00*79  |                | 240/ 240      | 0    | FLAT PLATE     |       | ( 58) | ARC 3.5-FT HYPERSONIC    |      |        | 244 | 2461         | PUBLISHED |
| IH68     | 10*12*76 - 12*08*76 |                | 400/ 628      | 0    | 5/140C         |       | ( 60) | ARC 3.5-FT HYPERSONIC    |      |        | 222 | 2357         | PUBLISHED |
| IH72     | 1* 3*77 - 01*10*77  |                | 60/ 56        | 0    | 5/140C         |       | ( 60) | AEDC A / SUPERSONIC      |      |        | K2A | 2372         | PUBLISHED |
| IH73     | 12* 1*77 - 01*23*78 |                | 160/ 160      | 0    | 5/140C         |       | ( 50) | ARC 3.5-FT HYPERSONIC    |      |        | 233 | 2407         | PUBLISHED |
| IH75     | 10* 3*77 - 12*12*77 |                | 200/ 320      | 41   | 5/140C         |       | ( 19) | CALSPAN 32-IN LUDWIG     |      |        | 100 | 2453         | PUBLISHED |
| IH83     | 1*25*78 - 03*10*78  |                | 200/ 102      | 41   | 5/140C         |       | ( 19) | LERC 10X10-FT SUPERSONIC |      |        | 044 | 2440         | PUBLISHED |
| IH85     | 4*19*78 - 04*26*78  |                | 60/ 65        | 337  | 5/140C         |       | ( 60) | AEDC A / SUPERSONIC      |      |        | W5  | 2431         | PUBLISHED |
| IH90     | 1*30*78 - 03*10*78  |                | 160/ 116      | 73   | 5/140C         |       | ( 60) | ARC 3.5-FT HYPERSONIC    |      |        | 234 | 2412         | PUBLISHED |
| IH99     | 8*28*77 - 09*07*77  |                | 80/ 79        | 0    | 5/140C         |       | ( 98) | ARC 3.5-FT HYPERSONIC    |      |        | 230 | 2452         | PUBLISHED |
| IH100    | 6*20*77 - 06*23*77  |                | 16/ 32        | 9    | GAS TEMP PROBE |       | ( 0)  | ARC 3.5-FT HYPERSONIC    |      |        | 227 | 2418         | PUBLISHED |
| IH102-1  | 5* 1*79 - 06*01*79  |                | 26/ 26        | 0    | 5/140C         |       | ( 60) | AEDC A / SUPERSONIC      |      |        | B67 | 2464         | PUBLISHED |
| IH102-2  | 5* 1*79 - 06*01*79  |                | 12/ 12        | 0    | 5/140C         |       | ( 56) | AEDC A / SUPERSONIC      |      |        | B67 | 2464         | PUBLISHED |
| IH102-3  | 5* 1*79 - 06*01*79  |                | 10/ 10        | 0    | 5/140C         |       | ( 83) | AEDC A / SUPERSONIC      |      |        | B67 | 2464         | PUBLISHED |
| IH103-1  | 10* 1*79 - 11*01*79 |                | 100/ 100      | 0    | 5/140C         |       | ( 60) | ARC 3.5-FT HYPERSONIC    |      |        | 245 | 2467         | PUBLISHED |
| IH103-2  | 10*15*79 - 11*01*79 |                | 100/ 100      | 0    | 5/140C         |       | ( 56) | ARC 3.5-FT HYPERSONIC    |      |        | 245 | 2467         | PUBLISHED |
| IH104    | 2* 7*80 - 04*17*80  |                | 80/ 80        | 0    | 5/140C         |       | ( 60) | ARC 3.5-FT HYPERSONIC    |      |        | 250 | 2480         | PUBLISHED |

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## PHASE C/D SSV WIND TUNNEL TESTING PER TEST NUMBER

| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF. | MODEL | (ID)  | FACILITY            | WIND | TUNNEL | NO.  | NO.  | DOCUMENT STATUS |
|----------|---------------------|----------------|---------------|------|------|-------|-------|---------------------|------|--------|------|------|-----------------|
| SH12F    | 7*29*74 - 08*07*74  |                | 80/ 80        | 42   | SRB  |       | ( O ) | LARC UNITARY PLAN   |      |        | 1115 | 2216 | PUBLISHED       |
| SH13F    | 10*31*75 - 11*18*75 |                | 80/ 156       | 124  | SRB  |       | ( O ) | LARC UNITARY PLAN   |      |        | 1159 |      | UNASSIGNED      |
| SH15F    | 12*29*75 - 02*20*76 |                | 12/ 100       | 0    | SRB  |       | ( O ) | AEDC A / SUPERSONIC |      |        | EOA  |      | UNASSIGNED      |
| SH16F    | 3*10*76 - 04*19*76  |                | 12/ 8         | 0    | SRB  |       | ( O ) | AEDC A / SUPERSONIC |      |        | E6A  |      | UNASSIGNED      |

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PHASE C/D SSV WIND TUNNEL TESTING PER TEST NUMBER

| TEST NO. | SCHED. | TESTING         | COMPL. | HOURS<br>EST/CHG | RUNS | REF. | MODEL | (ID) | FACILITY                 | WIND | TUNNEL | NO. | NO.  | DOCUMENT<br>STATUS |
|----------|--------|-----------------|--------|------------------|------|------|-------|------|--------------------------|------|--------|-----|------|--------------------|
| TH1F     | 9*     | 1*74 - 09*09*74 |        | 80/ 40           | 0    | ET   |       | ( O) | AEDC F / HYPERSONIC      |      |        | 25A | 2218 | PUBLISHED          |
| TH2F     | 6*     | 1*75 - 06*05*75 |        | 80/ 32           | 0    | ET   |       | ( O) | CALSPAN HYPERSONIC SHOCK |      |        | 000 |      | UNASSIGNED         |

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PHASE C/D SSV WIND TUNNEL TESTING PER TEST NUMBER

| TEST NO. | SCHED.             | TESTING | HOURS EST/CHG | RUNS   | REF.  | MODEL    | (ID)       | FACILITY | WIND       | TUNNEL | NO. | NO. | DOCUMENT STATUS |
|----------|--------------------|---------|---------------|--------|-------|----------|------------|----------|------------|--------|-----|-----|-----------------|
| MH1      | 1*13*76 - 01*23*76 | 24/ 64  | 90            | 4/1408 | ( 29) | AEDC F / | HYPERSONIC | 29A      | UNASSIGNED |        |     |     |                 |
| MH2      | 9* 3*75 - 01*23*76 | 16/ 11  | 22            | 4/1408 | ( 29) | AEDC B / | HYPERSONIC | D5A      | UNASSIGNED |        |     |     |                 |

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PHASE C/D SSV WIND TUNNEL TESTING PER TEST NUMBER

| TEST<br>NO. | SCHED.              | TESTING<br>COMPL. | HOURS<br>EST/CHG | RUNS      | REF.  | MODEL                        | (ID) | FACILITY   | WIND | TUNNEL | NO. | DOCUMENT<br>NO. | STATUS    |
|-------------|---------------------|-------------------|------------------|-----------|-------|------------------------------|------|------------|------|--------|-----|-----------------|-----------|
| FH1         | 11*15*72 - 01*01*73 | 160/ 80           | 200              | TPS TILES | ( 15) | LARC HIGH RE'S NUMBER HELIUM | 100  | UNASSIGNED |      |        |     |                 |           |
| FH10        | 1*21*74 - 01*29*74  | 32/ 32            | 9                | 3/139     | ( 22) | AEDC F / HYPERSONIC          | 291  | PUBLISHED  |      |        |     | 2197            | PUBLISHED |
| FH13        | 9*22*75 - 09*25*75  | 24/ 40            | 0                | ET/SPIKE  | ( 0)  | AEDC A / SUPERSONIC          | E1A  | PUBLISHED  |      |        |     | 2276            | PUBLISHED |
| FH14        | 3*15*76 - 04*06*76  | 40/ 40            | 0                | ET/SPIKE  | ( 0)  | ARC 3.5-FT HYPERSONIC        | 215  | PUBLISHED  |      |        |     | 2313            | PUBLISHED |
| FH15        | 5* 1*78 - 05*05*78  | 52/ 52            | 0                | ET/SPIKE  | ( 0)  | AEDC A / SUPERSONIC          | 420  | PUBLISHED  |      |        |     | 2422            | PUBLISHED |
| FH16        | 7* 1*78 - 07*15*78  | 80/ 80            | 0                | ET/SPIKE  | ( 0)  | ARC 3.5-FT HYPERSONIC        | 247  | PUBLISHED  |      |        |     | 2423            | PUBLISHED |



**APPENDIX A**

**TABLE A3 - WIND TUNNEL TESTING BY TEST NUMBER - STRUCTURAL DYNAMICS TESTS**

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## PHASE C/D SSV WIND TUNNEL TESTING PER TEST NUMBER

| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.           | MODEL | (ID)  | FACILITY                      | WIND | TUNNEL | NO. | DOCUMENT NO. | STATUS     |
|----------|---------------------|----------------|---------------|------|----------------|-------|-------|-------------------------------|------|--------|-----|--------------|------------|
| OS1      | 8* 6*73 - 08*10*73  |                | 80/ 72        | 39   | 2A/089B        |       | ( 23) | LARC 26-IN TRANSONIC BLOWDOWN |      |        | 545 | 2094         | PUBLISHED  |
| OS2      | 6* 4*73 - 06*07*73  |                | 120/ 24       | 18   | ATP            |       | ( 24) | LARC 26-IN TRANSONIC BLOWDOWN |      |        | 544 | 2067         | PUBLISHED  |
| OS3      | 8*11*73 - 08*14*73  |                | 58/ 52        | 31   | 2A/089B        |       | ( 11) | ARC 8X7-FT SUPERSONIC         |      |        | 705 | 2401         | PUBLISHED  |
| OS4A     | 9* 9*74 - 10*09*74  |                | 154/ 260      | 36   | PANELS         |       | ( 40) | ARC 2X2-FT TRANSONIC          |      |        | 041 | 2450         | PUBLISHED  |
| OS4B     | 11*18*75 - 01*15*76 |                | 140/ 96       | 0    | PANELS         |       | ( 40) | ARC 2X2-FT TRANSONIC          |      |        | 154 | 2450         | PUBLISHED  |
| OS6      | 9* 2*74 - 09*12*74  |                | 120/ 104      | 27   | 4/140B         |       | ( 54) | LARC 16-FT TRANSONIC DYNAMIC  |      |        | 246 | 2365         | PUBLISHED  |
| OS7      | 8*12*74 - 08*30*74  |                | 120/ 120      | 30   | 4/140B         |       | ( 55) | LARC 16-FT TRANSONIC DYNAMIC  |      |        | 246 | 2363         | PUBLISHED  |
| OS8A     | 7*11*74 - 07*18*74  |                | 60/ 156       | 96   | HRSI TILE      |       | ( 81) | ARC 11-FT TRANSONIC           |      |        | 705 | 2179         | PUBLISHED  |
| OS8B     | 7*19*74 - 07*29*74  |                | 60/ 120       | 39   | HRSI TILE      |       | ( 81) | ARC 9X7-FT SUPERSONIC         |      |        | 705 | 2179         | PUBLISHED  |
| OS12     | 1*11*76 - 01*29*76  |                | 80/ 40        | 42   | LRSI TILE      |       | ( 85) | ARC 2X2-FT TRANSONIC          |      |        | 116 | 2450         | PUBLISHED  |
| OS13     | 11*24*75 - 11*26*75 |                | 16/ 21        | 45   | LRSI TILE      |       | ( 85) | ARC 9X7-FT SUPERSONIC         |      |        | 166 | 2287         | IN PROCESS |
| OS20     | 10*22*75 - 10*30*75 |                | 120/ 120      | 14   | 5/140C         |       | ( 79) | LARC 16-FT TRANSONIC DYNAMIC  |      |        | 266 |              | UNASSIGNED |
| OS21     | 5* 8*78 - 05*26*78  |                | 200/ 120      | 0    | 5/140C FLUTTER |       | ( 80) | LARC 16-FT TRANSONIC DYNAMIC  |      |        | 300 |              | UNASSIGNED |
| OS22     | 4* 7*75 - 04*10*75  |                | 80/ 58        | 16   | 4/140A.B       |       | ( 55) | LARC 16-FT TRANSONIC DYNAMIC  |      |        | 258 |              | UNASSIGNED |
| OS31     | 11*22*77 - 11*30*77 |                | 84/ 56        | 55   | LRSI TILES     |       | ( 96) | ARC 11-FT TRANSONIC           |      |        | 145 |              | PUBLISHED  |
| OS32     | 7*15*76 - 07*27*76  |                | 96/ 80        | 89   | TILE PANEL     |       | ( 35) | ARC 2X2-FT TRANSONIC          |      |        | 167 | 2339         | IN PROCESS |
| OS36     | 4*16*79 - 04*19*79  |                | 60/ 64        | 0    | HRSI TILE      |       | ( 96) | ARC 11-FT TRANSONIC           |      |        | 369 | 2458         | PUBLISHED  |
| OS37     | 5* 7*79 - 05*11*79  |                | 60/ 40        | 0    | HRSI TILE      |       | ( 81) | ARC 9X7-FT SUPERSONIC         |      |        | 369 | 2458         | PUBLISHED  |
| OS41     | 4*18*79 - 04*20*79  |                | 8/ 16         | 0    | LRSI TILES     |       | ( 96) | ARC 11-FT TRANSONIC           |      |        | 369 | 2458         | PUBLISHED  |
| OS42     | 7* 2*79 - 07*05*79  |                | 8/ 8          | 0    | TPS TILES      |       | ( 96) | ARC 11-FT TRANSONIC           |      |        | 380 | 2463         | PUBLISHED  |
| OS45     | 9* 3*79 - 09*03*79  |                | 8/ 8          | 0    | TPS TILES      |       | ( 96) | ARC 11-FT TRANSONIC           |      |        | 381 | 2470         | PUBLISHED  |
| OS46A    | 3* 4*80 - 03*05*80  |                | 8/ 8          | 0    | TPS            |       | (109) | AEDC 16-FT TRANSONIC          |      |        | 551 | 2505         | PUBLISHED  |
| OS46B    | 3* 6*80 - 03*08*80  |                | 24/ 24        | 0    | TPS            |       | (108) | AEDC 16-FT TRANSONIC          |      |        | 551 | 2505         | PUBLISHED  |
| OS46C    | 4*17*80 - 04*18*80  |                | 8/ 8          | 0    | TPS            |       | (109) | AEDC 16-FT TRANSONIC          |      |        | 551 | 2505         | PUBLISHED  |
| OS46D    | 8* 0*80 - 09*00*80  |                | 8/ 8          | 0    | TPS            |       | (108) | AEDC 16-FT TRANSONIC          |      |        | 551 | 2505         | PUBLISHED  |

| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | MODEL REF. | (ID)  | FACILITY                     | WIND | TUNNEL | NO. | DOCUMENT NO. | STATUS     |
|----------|---------------------|----------------|---------------|------|------------|-------|------------------------------|------|--------|-----|--------------|------------|
| OS46E    | 9*15*80 - 10*20*80  |                | 8/ 8          | 0    | TPS        | (108) | AEDC 16-FT TRANSONIC         |      |        | 551 | 2505         | PUBLISHED  |
| OS46F    | 10* 1*80 - 10*02*80 |                | 8/ 8          | 0    | TPS        | (108) | AEDC 16-FT TRANSONIC         |      |        | 551 | 2505         | PUBLISHED  |
| OS46G    | 12*10*81 - 12*11*81 |                | 8/ 17         | 0    | TPS        | (108) | AEDC 16-FT TRANSONIC         |      |        | 551 | 2505         | PUBLISHED  |
| OS47     | 11* 1*79 - 12*20*79 |                | 160/ 160      | 0    | TPS        | (110) | AEDC 1-FT TRANSONIC          |      |        |     |              | UNASSIGNED |
| OS49     | 1*28*81 - 02*04*81  |                | 40/ 44        | 0    | TPS        | (111) | AEDC 16-FT TRANSONIC         |      |        | 556 | 2483         | PUBLISHED  |
| OS50     | 4*30*81 - 06*01*81  |                | 40/ 113       | 0    | TPS        | (113) | ARC 11-FT TRANSONIC          |      |        | 425 | 2485         | PUBLISHED  |
| OS51A    | 11*17*80 - 01*29*81 |                | 50/ 77        | 0    | TPS TILE   | ( 96) | ARC 11-FT TRANSONIC          |      |        | 436 | 2487         | PUBLISHED  |
| OS51B    | 11*17*80 - 11*19*80 |                | 50/ 50        | 0    | TPS TILE   | ( 96) | ARC 11-FT TRANSONIC          |      |        | 436 | 2487         | PUBLISHED  |
| OS51C    | 1*27*81 - 01*29*81  |                | 27/ 27        | 0    | TPS TILE   | ( 96) | ARC 11-FT TRANSONIC          |      |        | 436 | 2487         | PUBLISHED  |
| OS53A    | 12*12*80 - 01*01*81 |                | 80/ 104       | 0    | TPS        | (717) | LARC 8-FT TRANSONIC PRESSURE |      |        | 905 | 2503         | PUBLISHED  |
| OS53B    | 3*23*81 - 04*01*81  |                | 80/ 108       | 0    | TPS        | (719) | LARC 8-FT TRANSONIC PRESSURE |      |        | 909 | 2503         | PUBLISHED  |
| OS55     | 2*23*81 - 03*02*81  |                | 80/ 64        | 0    | TILE       | ( 81) | ARC 9X7-FT SUPERSONIC        |      |        | 464 | 2465         | PUBLISHED  |
| OS56     | 8*26*81 - 08*27*81  |                | 8/ 8          | 0    | TPS TILE   | (108) | AEDC 16-FT TRANSONIC         |      |        | 608 | 2489         | PUBLISHED  |
| OS57     | 8*26*81 - 08*27*81  |                | 8/ 8          | 0    | TILE       | ( 81) | ARC 9X7-FT SUPERSONIC        |      |        | 508 | 2465         | PUBLISHED  |
| OS60     | 6* 9*81 - 06*09*81  |                | 8/ 8          | 0    | TPS TILE   | ( 96) | ARC 11-FT TRANSONIC          |      |        | 500 | 2506         | PUBLISHED  |

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## PHASE C/D SSV WIND TUNNEL TESTING PER TEST NUMBER

| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.           | MODEL | (ID)  | FACILITY   | WIND               | TUNNEL | NO. | NO.  | DOCUMENT STATUS |
|----------|---------------------|----------------|---------------|------|----------------|-------|-------|------------|--------------------|--------|-----|------|-----------------|
| IS1A     | 8* 2*73 - 08*08*73  |                | 60/ 60        | 21   | 2A/089B        |       | ( 11) | ARC 11-FT  | TRANSONIC          |        | 705 | 2401 | PUBLISHED       |
| IS1B     | 7*23*73 - 08*01*73  |                | 60/ 64        | 4    | 2A/089B        |       | ( 11) | ARC 9X7-FT | SUPERSONIC         |        | 705 | 2401 | PUBLISHED       |
| IS1C     | 8* 9*73 - 08*11*73  |                | 12/ 24        | 3    | 2A/089B        |       | ( 11) | ARC 8X7-FT | SUPERSONIC         |        | 705 | 2401 | PUBLISHED       |
| IS2A     | 11* 7*75 - 11*14*75 |                | 144/ 120      | 53   | 5/140C         |       | ( 84) | ARC 11-FT  | TRANSONIC          |        | 113 | 2284 | PUBLISHED       |
| IS2B     | 9*25*75 - 10*29*75  |                | 60/ 60        | 67   | 5/140C         |       | ( 84) | ARC 9X7-FT | SUPERSONIC         |        | 113 | 2284 | PUBLISHED       |
| IS4      | 10*18*73 - 10*24*73 |                | 120/ 58       | 94   | 2A/089B        |       | ( 30) | LARC 26-IN | TRANSONIC BLOWDOWN |        | 547 | 2146 | PUBLISHED       |
| IS6A     | 10* 2*73 - 10*11*73 |                | 80/ 74        | 126  | 2A/089B        |       | ( 13) | MSFC 14-IN | TRANSONIC          |        | 582 | 2158 | PUBLISHED       |
| IS6B     | 3*20*73 - 05*27*73  |                | 50/ 50        | 70   | 2A/089B        |       | ( 13) | MSFC 14-IN | TRANSONIC          |        | 559 | 2158 | PUBLISHED       |
| IS10     | 9*18*78 - 10*08*78  |                | 200/ 128      | 0    | 5/140C FLUTTER |       | ( 80) | LARC 16-FT | TRANSONIC DYNAMIC  |        | 308 |      | UNASSIGNED      |
| IS20     | 7*24*78 - 08*25*78  |                | 200/ 216      | 0    | 5/140C + TOWER |       | (100) | LARC 16-FT | TRANSONIC DYNAMIC  |        | 306 |      | UNASSIGNED      |

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| TEST NO. | TESTING SCHED.      | COMPL. | HOURS EST/CHG | RUNS | REF.       | MODEL | (ID)   | FACILITY        | WIND        | TUNNEL | NO.  | DOCUMENT NO. | STATUS     |
|----------|---------------------|--------|---------------|------|------------|-------|--------|-----------------|-------------|--------|------|--------------|------------|
| CS1      | 6* 9*75 - 06*13*75  |        | 80/ 95        | 165  | 140A,B/747 |       | ( 8 )  | UNIV. OF WASH.  | LOW SPEED   |        | 1160 |              | UNASSIGNED |
| CS2      | 6* 9*75 - 06*16*75  |        | 95/ 95        | 165  | 140A,B/747 |       | ( 45 ) | THE BOEING CO.  | - TRANSONIC |        | 1474 |              | UNASSIGNED |
| CS3      | 9*12*75 - 09*15*75  |        | 40/ 80        | 129  | 140A,B/747 |       | ( 8 )  | UNIV. OF WASH.  | LOW SPEED   |        | 1170 | 2338         | PUBLISHED  |
| CS4      | 9*29*75 - 10*02*75  |        | 40/ 64        | 95   | 140A,B/747 |       | ( 45 ) | THE BOEING CO.  | - TRANSONIC |        | 1490 | 2341         | PUBLISHED  |
| CS5      | 11* 3*75 - 11*05*75 |        | 24/ 33        | 192  | 140A,B/747 |       | ( 45 ) | THE BOEING CO.  | - TRANSONIC |        | 1493 | 2341         | PUBLISHED  |
| CS6      | 2* 5*76 - 02*11*76  |        | 60/ 58        | 203  | 140A,B/747 |       | ( 8 )  | GENERAL DYNAMIC | - LOW SPEED |        | 691  |              | UNASSIGNED |

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## PHASE C/D SSV WIND TUNNEL TESTING PER TEST NUMBER

| TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF. | MODEL | (ID)  | FACILITY              | WIND | TUNNEL | NO. | DOCUMENT NO. | STATUS     |
|----------|---------------------|----------------|---------------|------|------|-------|-------|-----------------------|------|--------|-----|--------------|------------|
| SS13F    | 8* 4*76 - 08*25*76  |                | 120/ 162      | 0    | SRB  |       | ( O ) | ARC 14-FT TRANSONIC   |      |        | 196 |              | UNASSIGNED |
| SS13FB   | 7*26*76 - 08*04*76  |                | 60/ 120       | 0    | SRB  |       | ( O ) | ARC 9X7-FT SUPERSONIC |      |        | 114 |              | UNASSIGNED |
| SS13FC   | 7*19*76 - 07*23*76  |                | 60/ 60        | 0    | SRB  |       | ( O ) | ARC 8X7-FT SUPERSONIC |      |        | 114 |              | UNASSIGNED |
| SS14F    | 1*27*75 - 02*13*75  |                | 104/ 104      | 0    | SRB  |       | ( O ) | MSFC 14-IN TRANSONIC  |      |        | 616 |              | UNASSIGNED |
| SS15F    | 4*12*75 - 04*12*75  |                | 40/ 90        | 0    | SRB  |       | ( O ) | MSFC 14-IN TRANSONIC  |      |        | 623 |              | UNASSIGNED |
| SS16F    | 9*22*75 - 10*20*75  |                | 120/ 158      | 0    | SRB  |       | ( O ) | MSFC 14-IN TRANSONIC  |      |        | 636 |              | UNASSIGNED |
| SS17F    | 4* 4*75 - 04*05*75  |                | 12/ 12        | 0    | SRB  |       | ( O ) | AEDC A / SUPERSONIC   |      |        | F5A |              | UNASSIGNED |
| SS18F    | 11*14*75 - 12*08*75 |                | 80/ 131       | 0    | SRB  |       | ( O ) | MSFC 14-IN TRANSONIC  |      |        | 638 |              | UNASSIGNED |
| SS19F    | 5*27*75 - 06*27*75  |                | 180/ 192      | 0    | SRB  |       | ( O ) | MSFC 14-IN TRANSONIC  |      |        | 626 |              | UNASSIGNED |
| SS20F    | 2*15*75 - 02*21*75  |                | 40/ 44        | 0    | SRB  |       | ( O ) | MSFC 14-IN TRANSONIC  |      |        | 614 |              | UNASSIGNED |
| SS22F    | 1* 1*76 - 01*15*76  |                | 64/ 45        | 0    | SRB  |       | ( O ) | AEDC A / SUPERSONIC   |      |        | F9A |              | UNASSIGNED |
| SS27     | 3*13*78 - 04*17*78  |                | 80/ 80        | 0    | SRB  |       | ( O ) | ARC 14-FT TRANSONIC   |      |        | 302 |              | UNASSIGNED |
| SS28FB   | 6*12*78 - 06*18*78  |                | 40/ 40        | 0    | SRB  |       | ( O ) | ARC 9X7-FT SUPERSONIC |      |        | 281 |              | UNASSIGNED |
| SS28FC   | 1* 6*78 - 11*22*78  |                | 52/ 98        | 0    | SRB  |       | ( O ) | ARC 8X7-FT SUPERSONIC |      |        | 281 |              | UNASSIGNED |
| SS30F    | 7*20*77 - 09*03*77  |                | 160/ 240      | 0    | SRB  |       | ( O ) | MSFC 14-IN TRANSONIC  |      |        | 648 |              | UNASSIGNED |

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## PHASE C/D SSV WIND TUNNEL TESTING PER TEST NUMBER

| TEST NO. | SCHED.   | TESTING    | COMPL. | HOURS EST/CHG | RUNS | REF.       | MODEL | (ID)  | FACILITY                      | WIND | TUNNEL NO. | DOCUMENT NO. | STATUS     |
|----------|----------|------------|--------|---------------|------|------------|-------|-------|-------------------------------|------|------------|--------------|------------|
| FS2      | 2* 1*77  | - 06*01*77 |        | 400/ 400      | 0    | INT VEH.   |       | ( O ) | MSFC ACOUSTIC MODEL TEST FAC. |      |            |              | UNASSIGNED |
| FS5A     | 7* 1*73  | - 10*01*73 |        | 120/ 120      | 0    | INT. VEH.  |       | ( O ) | MSFC LOW DENSITY FAC.         |      |            |              | UNASSIGNED |
| FS5B     | 1* 1*74  | - 02*01*74 |        | 120/ 120      | 0    | INT. VEH.  |       | ( O ) | MSFC LOW DENSITY FAC.         |      |            |              | UNASSIGNED |
| FS5C     | 8* 1*74  | - 08*18*74 |        | 120/ 120      | 0    | INT. VEH.  |       | ( O ) | MSFC LOW DENSITY FAC.         |      |            |              | UNASSIGNED |
| FS8A     | 11* 1*73 | - 11*08*73 |        | 40/ 32        | 0    | PRR ASCENT |       | ( O ) | JPL 20-IN SUPERSONIC          |      |            |              | UNASSIGNED |
| FS8B     | 8* 1*74  | - 08*07*74 |        | 32/ 32        | 0    | PRR ASCENT |       | ( O ) | JPL 20-IN SUPERSONIC          |      |            |              | UNASSIGNED |

APPENDIX A

TABLE A4 - WIND TUNNEL TESTING BY FACILITY - NASA COMPLEXES



# PHASE C/D WIND TUNNEL TESTING PER FACILITY

AUG 01, 1984

| FACILITY     | WIND     | TUNNEL | NO. | TEST NO. | SCHED.   | TESTING    | COMPL.  | HOURS EST/CHG | RUNS          | REF.  | MODEL | (ID)       | NO. | DATAMAN | STATUS |
|--------------|----------|--------|-----|----------|----------|------------|---------|---------------|---------------|-------|-------|------------|-----|---------|--------|
| ARC 40X80-FT | SUBSONIC |        | 462 | 0A100    | 5*27*75  | - 06*14*75 | 240/272 | 190           | 0V101(ALT)    | ( 76) | 2261  | PUBLISHED  |     |         |        |
| ARC 40X80-FT | SUBSONIC |        | 471 | AA2      | 10*30*75 | - 11*01*75 | 40/ 40  | 0             | TUNNEL CALIB. | ( 0)  |       | UNASSIGNED |     |         |        |
| ARC 40X80-FT | SUBSONIC |        | 473 | 0A164    | 11*28*75 | - 12*01*75 | 80/ 80  | 22            | 0V101(ALT)    | ( 76) | 2499  | PUBLISHED  |     |         |        |
| ARC 40X80-FT | SUBSONIC |        | 479 | 0A174    | 2* 2*76  | - 02*27*76 | 240/264 | 165           | 0V101(ALT)    | ( 76) | 2302  | PUBLISHED  |     |         |        |
| ARC 40X80-FT | SUBSONIC |        | 500 | 0A237    | 1*24*77  | - 01*31*77 | 60/ 60  | 32            | ADS PROBES    | ( 99) | 2375  | PUBLISHED  |     |         |        |

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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY           | WIND | TUNNEL | NO. | TEST NO. | SCHED.     | TESTING  | COMPL. | HOURS EST/CHG | RUNS | REF.            | MODEL | (ID)  | NO.  | DATAMAN | STATUS     |
|--------------------|------|--------|-----|----------|------------|----------|--------|---------------|------|-----------------|-------|-------|------|---------|------------|
| ARC 12-FT PRESSURE |      |        | 028 | MA13     | 4*15*74 -  | 05*03*74 |        | 120/176       | 0    | GULFSTREAM 2    |       | ( 0)  |      |         | UNASSIGNED |
| ARC 12-FT PRESSURE |      |        | 078 | DA159    | 6*23*75 -  | 07*08*75 |        | 160/152       | 50   | 140A,B/(ALT)    |       | ( 45) | 2265 |         | PUBLISHED  |
| ARC 12-FT PRESSURE |      |        | 135 | LA66     | 10*20*75 - | 10*24*75 |        | 80/ 80        | 26   | 140C/REMOTE ELE |       | ( 44) | 2281 |         | PUBLISHED  |
| ARC 12-FT PRESSURE |      |        | 180 | DA173    | 3*15*76 -  | 03*26*76 |        | 160/256       | 48   | 140C(ALT)       |       | ( 45) | 2304 |         | PUBLISHED  |
| ARC 12-FT PRESSURE |      |        | 218 | DA101    | 9*13*77 -  | 11*11*77 |        | 160/160       | 373  | VEH 102         |       | ( 39) | 2405 |         | PUBLISHED  |

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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY             | WIND | TUNNEL | TEST NO. | SCHED.              | TESTING | HOURS EST/CHG | RUNS | REF.       | MODEL | (ID)  | NO.  | DATAMAN STATUS |
|----------------------|------|--------|----------|---------------------|---------|---------------|------|------------|-------|-------|------|----------------|
| ARC 2X2-FT TRANSONIC |      |        | 041      | 9* 9*74 - 10*09*74  |         | 154/260       | 36   | PANELS     |       | ( 40) | 2450 | PUBLISHED      |
| ARC 2X2-FT TRANSONIC |      |        | 154      | 11*18*75 - 01*15*76 |         | 140/ 96       | 0    | PANELS     |       | ( 40) | 2450 | PUBLISHED      |
| ARC 2X2-FT TRANSONIC |      |        | 116      | 1*11*76 - 01*29*76  |         | 80/ 40        | 42   | LRSI TILE  |       | ( 85) | 2450 | PUBLISHED      |
| ARC 2X2-FT TRANSONIC |      |        | 167      | 7*15*76 - 07*27*76  |         | 96/ 80        | 89   | TILE PANEL |       | ( 35) | 2339 | IN PROGRESS    |
| ARC 2X2-FT TRANSONIC |      |        | 382      | 10*16*79 - 11*14*79 |         | 360/360       | 0    | TILE       |       | (107) | 2473 | PUBLISHED      |

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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY              | WIND | TUNNEL | NO. | TEST NO. | SCHED.   | TESTING  | HOURS   | RUNS | REF.      | MODEL | (ID)  | NO.  | STATUS     |
|-----------------------|------|--------|-----|----------|----------|----------|---------|------|-----------|-------|-------|------|------------|
| ARC 6X6-FT SUPERSONIC |      |        | 650 | 0A3      | 10*24*72 | 11*10*72 | 200/320 | 214  | ATP       |       | ( 6)  | 2009 | PUBLISHED  |
| ARC 6X6-FT SUPERSONIC |      |        | 706 | 0A43     | 4*18*73  | 05*01*73 | 128/160 | 137  | 2A/0898   |       | ( 18) | 2050 | PUBLISHED  |
| ARC 6X6-FT SUPERSONIC |      |        | 630 | 1A29     | 9*12*73  | 09*25*73 | 80/184  | 111  | 4/140A.B  |       | ( 36) | 2077 | PUBLISHED  |
| ARC 6X6-FT SUPERSONIC |      |        | 630 | 0A63     | 9*25*73  | 9*28*73  | 64/ 80  | 98   | 4/140A.B  |       | ( 36) | 2077 | PUBLISHED  |
| ARC 6X6-FT SUPERSONIC |      |        | 709 | 0A59     | 3*13*74  | 3*21*74  | 120/293 | 150  | 4/140A.B  |       | ( 49) | 2159 | PUBLISHED  |
| ARC 6X6-FT SUPERSONIC |      |        | 033 | FA6      | 7*10*74  | 08*19*74 | 40/584  | 0    | OGIVE CYL |       | ( 0)  |      | UNASSIGNED |
| ARC 6X6-FT SUPERSONIC |      |        | 033 | FA7      | 8*20*74  | 08*28*74 | 40/166  | 0    | OGIVE CYL |       | ( 0)  |      | UNASSIGNED |

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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY            | WIND | TUNNEL | NO. | TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.          | MODEL | (ID)   | NO.  | DATAMAN STATUS |
|---------------------|------|--------|-----|----------|---------------------|----------------|---------------|------|---------------|-------|--------|------|----------------|
| ARC 14-FT TRANSONIC |      |        | 711 | 1A8      | 2*12*73 - 03*12*73  |                | 80/160        | 54   | ATP           |       | ( 6 )  | 2173 | PUBLISHED      |
| ARC 14-FT TRANSONIC |      |        | 085 | CA23A    | 3*21*75 - 04*17*75  |                | 120/213       | 71   | 140C(MOD)/747 |       | ( 48 ) | 2243 | PUBLISHED      |
| ARC 14-FT TRANSONIC |      |        | 085 | CA23B    | 5* 1*75 - 07*22*75  |                | 160/132       | 46   | 140C(MOD)/747 |       | ( 48 ) | 2275 | PUBLISHED      |
| ARC 14-FT TRANSONIC |      |        | 150 | 0A220    | 11*11*75 - 11*21*75 |                | 120/110       | 142  | VEH 101 (ADS) |       | ( 57 ) | 2286 | PUBLISHED      |
| ARC 14-FT TRANSONIC |      |        | 143 | 1A137    | 4*26*76 - 05*03*76  |                | 40/ 56        | 43   | ET FORETANK   |       | ( 68 ) | 2316 | PUBLISHED      |
| ARC 14-FT TRANSONIC |      |        | 121 | CA13     | 6* 8*76 - 07*01*76  |                | 160/193       | 54   | 140C(ALT)/747 |       | ( 45 ) | 2332 | PUBLISHED      |
| ARC 14-FT TRANSONIC |      |        | 196 | SS13F    | 8* 4*76 - 08*25*76  |                | 120/162       | 0    | SRB           |       | ( 0 )  |      | UNASSIGNED     |
| ARC 14-FT TRANSONIC |      |        | 302 | SS27     | 3*13*78 - 04*17*78  |                | 80/ 80        | 0    | SRB           |       | ( 0 )  |      | UNASSIGNED     |

# PHASE C/D WIND TUNNEL TESTING PER FACILITY

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| FACILITY            | WIND | TUNNEL | TEST NO. | SCHED.              | TESTING | HOURS EST/CHG | RUNS | REF.            | MODEL | (ID)  | DATAMAN NO. | STATUS     |
|---------------------|------|--------|----------|---------------------|---------|---------------|------|-----------------|-------|-------|-------------|------------|
| ARC 11-FT TRANSONIC |      |        | 608      | 1*10*71 - 01*31*71  |         | 300/300       | 0    | PRE-ATP         |       | ( 0)  | 2255        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 686      | 2*12*73 - 02*23*73  |         | 80/160        | 85   | PRE-ATP/001     |       | ( 7)  | 2024        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 707      | 4* 2*73 - 04*14*73  |         | 90/113        | 118  | 2A/089B         |       | ( 17) | 2032        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 707      | 4*12*73 - 04*23*73  |         | 90/103        | 98   | 2A/089B         |       | ( 17) | 2032        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 705      | 8* 2*73 - 08*08*73  |         | 60/ 60        | 21   | 2A/089B         |       | ( 11) | 2401        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 716      | 9* 4*73 - 09*13*73  |         | 130/151       | 149  | 4/140A,B        |       | ( 47) | 2084        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 716      | 9*12*73 - 09*14*73  |         | 20/ 21        | 24   | 4/140A,B        |       | ( 47) | 2130        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 747      | 11*19*73 - 11*27*73 |         | 128/128       | 267  | 4/140A,B        |       | ( 47) | 2128        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 003      | 4* 8*74 - 04*22*74  |         | 120/ 52       | 0    | GULFSTREAM 2    |       | ( 0)  |             | UNASSIGNED |
| ARC 11-FT TRANSONIC |      |        | 705      | 7*11*74 - 07*18*74  |         | 60/156        | 96   | HRSI TILE       |       | ( 81) | 2179        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 019      | 7*26*74 - 08*27*74  |         | 84/184        | 99   | 4/140A,B (MOD)  |       | ( 47) | 2169        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 014      | 9*16*74 - 09*23*74  |         | 156/136       | 201  | 5/140C          |       | ( 88) | 2170        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 023      | 11* 4*74 - 11*08*74 |         | 100/144       | 380  | 5/140C          |       | ( 88) | 2212        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 094      | 3*10*75 - 03*20*75  |         | 140/160       | 285  | 140A,B (MOD)    |       | ( 45) | 2245        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 073      | 5* 5*75 - 05*17*75  |         | 220/264       | 474  | 4/140A,B (MOD)  |       | ( 47) | 2254        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 072      | 5*19*75 - 05*31*75  |         | 120/200       | 176  | 5/140C          |       | ( 88) | 2258        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 113      | 11* 7*75 - 11*14*75 |         | 144/120       | 53   | 5/140C          |       | ( 84) | 2284        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 144      | 3* 2*76 - 03*23*76  |         | 120/146       | 132  | 4/140A,B (MOD)  |       | ( 47) | 2306        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 074      | 4*14*76 - 04*26*76  |         | 200/193       | 0    | SRB             |       | (483) | 2331        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 187      | 6*28*76 - 07*09*76  |         | 160/240       | 290  | 140A,B (ALT)    |       | ( 47) | 2333        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 200      | 7* 9*76 - 07*24*76  |         | 120/151       | 521  | 140C/REMOTE ELE |       | ( 44) | 2344        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 103      | 7*24*76 - 08*04*76  |         | 60/ 44        | 0    | TRIPLE BODY     |       | ( 0)  |             | UNASSIGNED |
| ARC 11-FT TRANSONIC |      |        | 213      | 10* 4*76 - 10*18*76 |         | 160/208       | 220  | OV101 (ALT)     |       | (201) | 2353        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 115      | 2*24*77 - 03*04*77  |         | 160/144       | 390  | 5/140C          |       | ( 47) | 2376        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 118      | 3* 8*77 - 04*02*77  |         | 160/480       | 981  | VEH 102         |       | ( 39) | 2380        | PUBLISHED  |
| ARC 11-FT TRANSONIC |      |        | 228      | 4* 6*77 - 04*15*77  |         | 160/200       | 514  | 5/140C          |       | ( 72) | 2377        | PUBLISHED  |

|                     |     |        |                     |         |     |            |       |      |            |
|---------------------|-----|--------|---------------------|---------|-----|------------|-------|------|------------|
| ARC 11-FT TRANSONIC | 275 | IA119  | 10* 7*77 - 10*31*77 | 170/285 | 620 | 5/140C     | ( 88) | 2404 | PUBLISHED  |
| ARC 11-FT TRANSONIC | 145 | DS31   | 11*22*77 - 11*30*77 | 184/ 56 | 55  | LRSI TILES | ( 96) |      | PUBLISHED  |
| ARC 11-FT TRANSONIC | 289 | DA126A | 5* 1*78 - 05*30*78  | 240/131 | 304 | 5/140C     | ( 47) | 2424 | PUBLISHED  |
| ARC 11-FT TRANSONIC | 369 | DS36   | 4*16*79 - 04*19*79  | 60/ 64  | 0   | HRSI TILE  | ( 96) | 2458 | PUBLISHED  |
| ARC 11-FT TRANSONIC | 369 | DS41   | 4*18*79 - 04*20*79  | 8/ 16   | 0   | LRSI TILES | ( 96) | 2458 | PUBLISHED  |
| ARC 11-FT TRANSONIC | 380 | DS42   | 7* 2*79 - 07*05*79  | 8/ 8    | 0   | TPS TILES  | ( 96) | 2463 | PUBLISHED  |
| ARC 11-FT TRANSONIC | 865 | DH400  | 8* 1*79 - 09*01*79  | 36/ 36  | 124 | 140C SILTS | ( 92) | 2472 | PUBLISHED  |
| ARC 11-FT TRANSONIC | 381 | DS45   | 9* 3*79 - 09*03*79  | 8/ 8    | 0   | TPS TILES  | ( 96) | 2470 | PUBLISHED  |
| ARC 11-FT TRANSONIC | 411 | IA190A | 2* 7*80 - 02*21*80  | 160/168 | 166 | 5/140C     | ( 47) | 2476 | IN PROCESS |
| ARC 11-FT TRANSONIC | 427 | DA400  | 4*23*80 - 05*02*80  | 120/120 | 200 | 5/140C     | ( 47) | 2482 | PUBLISHED  |
| ARC 11-FT TRANSONIC | 412 | IA191  | 6*20*80 - 06*27*80  | 40/ 40  | 0   | FUEL LINE  | (112) | 2378 | PUBLISHED  |
| ARC 11-FT TRANSONIC | 436 | DS51B  | 11*17*80 - 11*19*80 | 50/ 50  | 0   | TPS TILE   | ( 96) | 2487 | PUBLISHED  |
| ARC 11-FT TRANSONIC | 436 | DS51A  | 11*17*80 - 01*29*81 | 50/ 77  | 0   | TPS TILE   | ( 96) | 2487 | PUBLISHED  |
| ARC 11-FT TRANSONIC | 436 | DS51C  | 1*27*81 - 01*29*81  | 27/ 27  | 0   | TPS TILE   | ( 96) | 2487 | PUBLISHED  |
| ARC 11-FT TRANSONIC | 425 | DS50   | 4*30*81 - 06*01*81  | 40/113  | 0   | TPS        | (113) | 2485 | PUBLISHED  |
| ARC 11-FT TRANSONIC | 500 | DS60   | 6* 9*81 - 06*09*81  | 8/ 8    | 0   | TPS TILE   | ( 96) | 2506 | PUBLISHED  |
| ARC 11-FT TRANSONIC | 510 | MA33A  | 4*19*82 - 04*30*82  | 80/144  | 0   | VEH 102    | (106) | 2507 | PUBLISHED  |

# PHASE C/D WIND TUNNEL TESTING PER FACILITY

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| FACILITY              | WIND | TUNNEL | TEST NO. | SCHED.              | TESTING | HOURS EST/CHG | RUNS | REF.           | MODEL | (ID)  | NO.  | STATUS     |
|-----------------------|------|--------|----------|---------------------|---------|---------------|------|----------------|-------|-------|------|------------|
| ARC 9X7-FT SUPERSONIC |      |        | 608      | 2* 1*71 - 02*15*71  |         | 100/100       | 0    | PRE-ATP        |       | ( 0)  | 2255 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 616      | 10*11*72 - 11*03*72 |         | 40/244        | 92   | PRE-ATP/001    |       | ( 7)  | 2013 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 710      | 4*23*73 - 05*07*73  |         | 120/156       | 63   | 2A/089B(MOD)   |       | ( 14) | 2048 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 707      | 5* 2*73 - 05*09*73  |         | 100/120       | 65   | 2A/089B        |       | ( 17) | 2032 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 705      | 7*23*73 - 08*01*73  |         | 60/ 64        | 4    | 2A/089B        |       | ( 11) | 2401 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 716      | 9*14*73 - 09*19*73  |         | 48/ 41        | 66   | 4/140A,B       |       | ( 47) | 2129 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 716      | 9*19*73 - 09*20*73  |         | 40/ 31        | 30   | 4/140A,B       |       | ( 47) | 2131 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 747      | 11*12*73 - 11*16*73 |         | 60/160        | 103  | 4/140A,B       |       | ( 47) | 2178 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 052      | 7* 8*74 - 07*11*74  |         | 30/ 20        | 17   | 4/140A,B       |       | ( 67) | 2189 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 052      | 7* 8*74 - 07*11*74  |         | 50/ 60        | 79   | 4/140A,B       |       | ( 49) | 2189 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 705      | 7*19*74 - 07*29*74  |         | 60/120        | 39   | HRSI TILE      |       | ( 81) | 2179 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 019      | 8* 9*74 - 08*22*74  |         | 60/208        | 88   | 4/140A,B (MOD) |       | ( 47) | 2194 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 044      | 1*28*75 - 02*04*75  |         | 70/132        | 286  | 5/140C         |       | ( 75) | 2231 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 094      | 3*20*75 - 03*26*75  |         | 24/ 30        | 49   | 140A,B (MOD)   |       | ( 45) | 2245 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 113      | 9*25*75 - 10*29*75  |         | 60/ 60        | 67   | 5/140C         |       | ( 84) | 2284 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 166      | 11*24*75 - 11*26*75 |         | 16/ 21        | 45   | LRSI TILE      |       | ( 85) | 2287 | IN PROCESS |
| ARC 9X7-FT SUPERSONIC |      |        | 103      | 12* 1*75 - 12*12*75 |         | 60/ 72        | 0    | TRIPLE BODY    |       | ( 0)  |      | UNASSIGNED |
| ARC 9X7-FT SUPERSONIC |      |        | 144      | 3* 5*76 - 03*23*76  |         | 60/100        | 50   | 4/140A,B (MOD) |       | ( 47) | 2306 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 074      | 4*25*76 - 05*07*76  |         | 120/ 84       | 0    | SRB            |       | (483) | 2331 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 114      | 7*26*76 - 08*04*76  |         | 60/120        | 0    | SRB            |       | ( 0)  |      | UNASSIGNED |
| ARC 9X7-FT SUPERSONIC |      |        | 119      | 11* 8*76 - 21*15*76 |         | 60/ 76        | 184  | ADS PROBES     |       | ( 99) | 2360 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 115      | 2* 2*77 - 02*07*77  |         | 40/168        | 201  | 5/140C         |       | ( 47) | 2370 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 113      | 4*15*77 - 05*03*77  |         | 80/348        | 240  | VEH 102        |       | ( 39) | 2364 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 272      | 12*16*77 - 01*06*78 |         | 100/191       | 177  | VEH 102        |       | ( 89) | 2408 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 242      | 1* 9*78 - 02*01*78  |         | 100/258       | 143  | 5/140C         |       | ( 47) | 2413 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC |      |        | 282      | 4*17*78 - 04*23*78  |         | 40/ 80        | 90   | ADS PROBES     |       | ( 99) | 2421 | PUBLISHED  |



|                       |     |        |                     |         |     |             |       |      |            |
|-----------------------|-----|--------|---------------------|---------|-----|-------------|-------|------|------------|
| ARC 9X7-FT SUPERSONIC | 289 | 0A126B | 4*17*78 - 04*30*78  | 120/ 97 | 256 | 5/140C      | ( 47) | 2424 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC | 281 | SS28FB | 6*12*78 - 06*18*78  | 40/ 40  | 0   | SRB         | ( 0)  |      | UNASSIGNED |
| ARC 9X7-FT SUPERSONIC | 246 | IA138  | 8*21*78 - 09*01*78  | 70/112  | 224 | 5/140C      | ( 75) | 2438 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC | 283 | IA131B | 11* 3*78 - 11*09*78 | 48/ 40  | 0   | ET FORETANK | ( 68) | 2462 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC | 347 | IA184  | 4* 2*79 - 04*13*79  | 24/ 40  | 115 | 5/140C      | ( 47) | 2456 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC | 369 | DS37   | 5* 7*79 - 05*11*79  | 60/ 40  | 0   | HRSI TILE   | ( 81) | 2458 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC | 411 | IA190B | 5*20*80 - 02*21*80  | 120/104 | 294 | 5/140C      | ( 47) | 2476 | IN PROCESS |
| ARC 9X7-FT SUPERSONIC | 464 | DS55   | 2*23*81 - 03*02*81  | 80/ 64  | 0   | TILE        | ( 81) | 2465 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC | 508 | DS57   | 8*26*81 - 08*27*81  | 8/ 8    | 0   | TILE        | ( 81) | 2465 | PUBLISHED  |
| ARC 9X7-FT SUPERSONIC | 513 | MA35B  | 12* 2*81 - 12*16*81 | 40/ 80  | 0   | ADS PROBES  | ( 99) |      | UNASSIGNED |
| ARC 9X7-FT SUPERSONIC | 510 | MA33B  | 5*10*82 - 05*21*82  | 40/ 96  | 0   | VEH 102     | (106) | 2507 | PUBLISHED  |

PHASE C/D WIND TUNNEL TESTING PER FACILITY

AUG 01, 1984

| FACILITY              | WIND | TUNNEL | TEST NO. | SCHED.              | TESTING | HOURS EST/CHG | RUNS | REF.           | MODEL | (ID)  | NO.  | STATUS     |
|-----------------------|------|--------|----------|---------------------|---------|---------------|------|----------------|-------|-------|------|------------|
| ARC 8X7-FT SUPERSONIC |      | 707    | IA9C     | 4*22*73 - 05*01*73  |         | 60/ 60        | 102  | 2A/089B        |       | ( 17) | 2032 | PUBLISHED  |
| ARC 8X7-FT SUPERSONIC |      | 707    | OA12C    | 5* 2*73 - 05*10*73  |         | 60/ 60        | 46   | 2A/089B        |       | ( 17) | 2032 | PUBLISHED  |
| ARC 8X7-FT SUPERSONIC |      | 710    | IA12C    | 7*11*73 - 07*27*73  |         | 220/220       | 133  | 2A/089(MOD)    |       | ( 14) | 2065 | PUBLISHED  |
| ARC 8X7-FT SUPERSONIC |      | 705    | IS1C     | 8* 9*73 - 08*11*73  |         | 12/ 24        | 3    | 2A/089B        |       | ( 11) | 2401 | PUBLISHED  |
| ARC 8X7-FT SUPERSONIC |      | 705    | OS3      | 8*11*73 - 08*14*73  |         | 58/ 52        | 31   | 2A/089B        |       | ( 11) | 2401 | PUBLISHED  |
| ARC 8X7-FT SUPERSONIC |      | 747    | OA53C    | 11*28*73 - 12*06*73 |         | 60/159        | 159  | 4/140A,B       |       | ( 47) | 2185 | PUBLISHED  |
| ARC 8X7-FT SUPERSONIC |      | 044    | IA82C    | 11*11*74 - 11*15*74 |         | 80/ 92        | 240  | 5/140C         |       | ( 75) | 2219 | PUBLISHED  |
| ARC 8X7-FT SUPERSONIC |      | 094    | OA161C   | 3*26*75 - 03*31*75  |         | 20/ 22        | 45   | 140A,B (MOD)   |       | ( 45) | 2245 | PUBLISHED  |
| ARC 8X7-FT SUPERSONIC |      | 144    | IA135C   | 3*12*76 - 03*23*76  |         | 20/ 40        | 5    | 4/140A,B (MOD) |       | ( 47) | 2306 | PUBLISHED  |
| ARC 8X7-FT SUPERSONIC |      | 074    | SA11FC   | 3*29*76 - 04*14*76  |         | 120/156       | 0    | SRB            |       | (483) | 2331 | PUBLISHED  |
| ARC 8X7-FT SUPERSONIC |      | 114    | SS13FC   | 7*19*76 - 07*23*76  |         | 60/ 60        | 0    | SRB            |       | ( 0)  |      | UNASSIGNED |
| ARC 8X7-FT SUPERSONIC |      | 119    | OA221C   | 11*15*76 - 11*22*76 |         | 60/ 68        | 58   | ADS PROBES     |       | ( 99) | 2360 | PUBLISHED  |
| ARC 8X7-FT SUPERSONIC |      | 115    | OA149C   | 2*16*77 - 02*18*77  |         | 40/144        | 25   | 5/140C         |       | ( 47) | 2370 | PUBLISHED  |
| ARC 8X7-FT SUPERSONIC |      | 118    | OA145C   | 4* 6*77 - 04*20*77  |         | 80/100        | 188  | VEH 102        |       | ( 39) | 2389 | PUBLISHED  |
| ARC 8X7-FT SUPERSONIC |      | 282    | OA251C   | 5*29*78 - 06*15*78  |         | 40/ 72        | 96   | ADS PROBES     |       | ( 99) | 2421 | PUBLISHED  |
| ARC 8X7-FT SUPERSONIC |      | 281    | SS28FC   | 11* 6*78 - 11*22*78 |         | 52/ 98        | 0    | SRB            |       | ( 0)  |      | UNASSIGNED |
| ARC 8X7-FT SUPERSONIC |      | 318    | OA146    | 11*28*78 - 12*07*78 |         | 80/116        | 30   | 5/140C         |       | ( 47) | 2445 | PUBLISHED  |
| ARC 8X7-FT SUPERSONIC |      | 289    | OA126C   | 12* 8*78 - 12*22*78 |         | 80/ 56        | 134  | 5/140C         |       | ( 47) | 2424 | PUBLISHED  |
| ARC 8X7-FT SUPERSONIC |      | 283    | IA*31C   | 3* 5*79 - 03*11*79  |         | 48/ 40        | 0    | ET FORETANK    |       | ( 68) | 2462 | PUBLISHED  |
| ARC 8X7-FT SUPERSONIC |      | 513    | A.35C    | 4*19*82 - 04*23*82  |         | 40/120        | 0    | ADS PROBES     |       | ( 99) |      | UNASSIGNED |

# PHASE C/D WIND TUNNEL TESTING PER FACILITY

AUG 01, 1984

| FACILITY              | WIND | TUNNEL | NO. | TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.        | MODEL | (ID)  | NO.  | STATUS     |
|-----------------------|------|--------|-----|----------|---------------------|----------------|---------------|------|-------------|-------|-------|------|------------|
| ARC 3.5-FT HYPERSONIC |      |        | 147 | QA4      | 10* 2*72 - 10*17*72 |                | 200/176       | 54   | ATP         |       | ( 6)  | 2007 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 156 | MA6      | 4* 2*73 - 04*06*73  |                | 120/136       | 4    | RI PRR ORB. |       | ( 27) |      | UNASSIGNED |
| ARC 3.5-FT HYPERSONIC |      |        | 157 | DA11A    | 4* 9*73 - 04*17*73  |                | 144/176       | 62   | 2A/O89B     |       | ( 18) | 2044 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 158 | QH2      | 4*18*73 - 06*01*73  |                | 40/144        | 81   | TPS TILES   |       | ( 15) | 2035 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 160 | DA11B    | 5*14*73 - 05*25*73  |                | 140/160       | 70   | 2A/O89B     |       | ( 18) | 2059 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 163 | QA58     | 6* 4*73 - 06*18*73  |                | 80/ 76        | 38   | 3/139B      |       | ( 42) | 2060 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 167 | QA73     | 7*11*73 - 7*18*73   |                | 60/ 96        | 37   | 3/139B      |       | ( 42) | 2082 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 168 | DA23-1   | 7*19*73 - 07*31*73  |                | 80/ 54        | 23   | 3A/140A     |       | ( 49) | 2071 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 168 | DA23-2   | 7*26*73 - 07*31*73  |                | 80/ 90        | 39   | 3/139B      |       | ( 32) | 2071 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 169 | IA10     | 8* 1*73 - 08*03*73  |                | 50/ 40        | 18   | 3/139B      |       | ( 32) | 2078 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 172 | IH15     | 8*13*73 - 08*17*73  |                | 64/ 72        | 30   | 2A/O89B     |       | ( 41) | 2098 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 171 | OH10     | 8*17*73 - 09*04*73  |                | 96/104        | 35   | 3/139       |       | ( 26) | 2085 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 171 | IH2      | 9* 4*73 - 09*11*73  |                | 80/104        | 21   | 3/139       |       | ( 26) | 2085 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 173 | OH15     | 9*12*73 - 09*20*73  |                | 64/ 96        | 32   | FLAT PLATE  |       | ( 53) | 2385 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 175 | IA15     | 10*10*73 - 10*16*73 |                | 64/ 80        | 25   | 3/139B      |       | ( 32) | 2102 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 176 | QA87     | 10*15*73 - 10*23*73 |                | 80/ 80        | 30   | 4/140A,B    |       | ( 49) | 2115 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 177 | OH44     | 10*24*73 - 10*30*73 |                | 80/ 80        | 46   | FLAT PLATE  |       | ( 53) | 2386 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 178 | IH3      | 10*31*73 - 11*09*73 |                | 128/128       | 79   | 3/139       |       | ( 22) | 2136 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 180 | IA16     | 11*17*73 - 12*04*73 |                | 80/ 52        | 9    | 4/140A,B    |       | ( 36) | 2124 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 180 | QA26     | 11*17*73 - 12*04*73 |                | 64/140        | 27   | 4/140A,B    |       | ( 36) | 2124 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 182 | OH43     | 12* 2*73 - 12*21*73 |                | 160/128       | 92   | TPS TILES   |       | ( 15) | 2250 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 185 | IH20     | 1*18*74 - 02*06*74  |                | 192/192       | 105  | 3/139       |       | ( 22) | 2148 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 183 | OH6      | 2* 6*74 - 02*11*74  |                | 48/ 56        | 39   | 3/139       |       | ( 22) | 2151 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 186 | AA1A     | 2*12*74 - 02*25*74  |                | 64/ 64        | 28   | 4/140A,B    |       | ( 49) |      | UNASSIGNED |
| ARC 3.5-FT HYPERSONIC |      |        | 187 | QA36     | 2*25*74 - 03*01*74  |                | 80/ 80        | 38   | 4/140A,B    |       | ( 49) | 2162 | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC |      |        | 190 | QA98     | 3*27*74 - 04*03*74  |                | 80/128        | 46   | 4/140A/B    |       | ( 49) | 2167 | PUBLISHED  |

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OF POOR QUALITY

|                       |     |         |                     |         |     |                |       |            |
|-----------------------|-----|---------|---------------------|---------|-----|----------------|-------|------------|
| ARC 3.5-FT HYPERSONIC | 186 | AA1B    | 4* 4*74 - 04*06*74  | 64/ 64  | 13  | 4/140A.B       | ( 49) | UNASSIGNED |
| ARC 3.5-FT HYPERSONIC | 191 | IA18    | 4* 9*74 - 04*12*74  | 60/ 64  | 26  | 3/139B         | ( 52) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 194 | DA83    | 5* 8*74 - 05*16*74  | 80/160  | 34  | 4/140A.B       | ( 36) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 195 | IH28-2  | 5*20*74 - 05*24*74  | 30/ 38  | 15  | 2A/089B        | ( 50) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 195 | IH28-1  | 5*20*74 - 05*24*74  | 80/ 50  | 24  | 2A/089B        | ( 50) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 196 | TA9F    | 6* 3*74 - 06*15*74  | 128/144 | 0   | ET             | (466) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 198 | DH38    | 6*21*74 - 07*18*74  | 160/320 | 91  | 4/140B         | ( 61) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 199 | DH26    | 7*22*74 - 07*29*74  | 80/ 96  | 56  | 4/140B         | ( 22) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 200 | IH27    | 9* 7*74 - 09*25*74  | 80/196  | 65  | TPS TILES      | ( 15) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 211 | IH48    | 4*17*75 - 05*08*75  | 240/256 | 125 | 5/140C         | ( 60) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 215 | FH14    | 3*15*76 - 04*06*76  | 40/ 40  | 0   | ET/SPIKE       | ( 0)  | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 216 | DH53A   | 4* 7*76 - 04*13*76  | 40/ 40  | 39  | 5/140C         | ( 83) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 216 | DH53B   | 4*14*76 - 04*23*76  | 40/ 80  | 23  | 5/140C         | ( 82) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 217 | IH42    | 4*26*76 - 05*26*76  | 192/218 | 57  | 5/140C         | ( 56) | UNASSIGNED |
| ARC 3.5-FT HYPERSONIC | 222 | IH68    | 10*12*76 - 12*08*76 | 400/628 | 0   | 5/140C         | ( 60) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 227 | IH100   | 6*20*77 - 06*23*77  | 16/ 32  | 9   | GAS TEMP PROBE | ( 0)  | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 228 | IH51A   | 7*14*77 - 07*27*77  | 80/118  | 62  | FLAT PLATE     | ( 58) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 230 | IH99    | 8*28*77 - 09*07*77  | 80/ 79  | 0   | 5/140C         | ( 98) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 233 | IH73    | 12* 1*77 - 01*23*78 | 160/160 | 0   | 5/140C         | ( 50) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 234 | IH90    | 1*30*78 - 03*10*78  | 160/116 | 73  | 5/140C         | ( 60) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 235 | DH58    | 3*24*78 - 04*21*78  | 120/168 | 58  | ELEV/ELEV SEAL | ( 93) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 247 | FH16    | 7* 1*78 - 07*15*78  | 80/ 80  | 0   | ET/SPIKE       | ( 0)  | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 239 | IH51B   | 7*15*78 - 07*24*78  | 60/ 60  | 0   | FLAT PLATE     | ( 58) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 241 | IH51C   | 12*26*78 - 02*16*79 | 500/632 | 0   | FLAT PLATE     | ( 58) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 244 | IH51D   | 5* 1*79 - 06*00*79  | 240/240 | 0   | FLAT PLATE     | ( 58) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 246 | DH84C   | 6*15*79 - 06*28*79  | 80/ 80  | 0   | 5/140C         | ( 60) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 247 | DH105B  | 7*23*79 - 08*01*79  | 24/180  | 0   | 5/140C         | ( 60) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 245 | IH103-1 | 10* 1*79 - 11*01*79 | 100/100 | 0   | 5/140C         | ( 60) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 245 | IH103-2 | 10*15*79 - 11*01*79 | 100/100 | 0   | 5/140C         | ( 56) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 250 | IH104   | 2* 7*80 - 04*17*80  | 80/ 80  | 0   | 5/140C         | ( 60) | PUBLISHED  |
| ARC 3.5-FT HYPERSONIC | 253 | DH110   | 11*17*80 - 01*30*81 | 80/200  | 0   | 5/140C         | ( 60) | PUBLISHED  |

ARC 3.5-FT HYPERSONIC

254

DH108

12\*15\*80 - 01\*15\*81

200/139

43

ELEV/ELEV

( 93)

2494 PUBLISHED

# PHASE C/D WIND TUNNEL TESTING PER FACILITY

AUG 01, 1984

| FACILITY     | WIND | TUNNEL | NO. | TEST NO. | SCHED.   | TESTING    | COMPL.  | HOURS EST/CHG | RUNS     | REF.  | MODEL | (ID)      | NO. | DATAMAN | STATUS |
|--------------|------|--------|-----|----------|----------|------------|---------|---------------|----------|-------|-------|-----------|-----|---------|--------|
| LARC 7X10-FT | HIGH | SPEED  | 999 | LABO     | 10* 6*75 | - 11*07*75 | 156/156 | 83            | 140C/747 | ( 88) | 2299  | PUBLISHED |     |         |        |

PHASE C/D WIND TUNNEL TESTING PER FACILITY

AUG 01, 1984

| FACILITY    | WIND | TUNNEL | NO. | TEST NO. | SCHED.             | TESTING | HOURS EST/CHG | RUNS           | REF.  | MODEL | (ID)       | NO. | STATUS |
|-------------|------|--------|-----|----------|--------------------|---------|---------------|----------------|-------|-------|------------|-----|--------|
| LARC V/STOL |      |        | 114 | 0A155    | 2*10*75 - 03*07*75 | 80/152  | 205           | 4/140A,B (MOD) | ( 47) | 2237  | IN PROCESS |     |        |
| LARC V/STOL |      |        | 129 | CA8      | 8*18*75 - 09*12*75 | 200/324 | 536           | 4/140A,B/747   | ( 43) | 2290  | PUBLISHED  |     |        |

# PHASE C/D WIND TUNNEL TESTING PER FACILITY

AUG 01, 1984

| FACILITY                     | WIND | TUNNEL | TEST NO. | NO. | SCHED.              | TESTING | HOURS EST/CHG | RUNS | REF.            | MODEL | (ID)  | NO.  | STATUS     |
|------------------------------|------|--------|----------|-----|---------------------|---------|---------------|------|-----------------|-------|-------|------|------------|
| LARC LOW TURBULANCE PRESSURE |      |        | LA9A     | 130 | 4*26*73 - 05*07*73  |         | 160/ 96       | 65   | 089B, 139 NOSE  |       | ( 0)  | 2056 | PUBLISHED  |
| LARC LOW TURBULANCE PRESSURE |      |        | LA9B     | 135 | 5*23*73 - 05*31*73  |         | 140/ 32       | 22   | 089B, 139 NOSE  |       | ( 0)  | 2056 | PUBLISHED  |
| LARC LOW TURBULANCE PRESSURE |      |        | DA17-1   | 138 | 5*18*73 - 07*06*73  |         | 60/124        | 65   | 3/139B          |       | ( 42) | 2058 | PUBLISHED  |
| LARC LOW TURBULANCE PRESSURE |      |        | DA17-2   | 138 | 6*18*73 - 07*06*73  |         | 20/100        | 55   | 2A/089B         |       | ( 18) | 2058 | PUBLISHED  |
| LARC LOW TURBULANCE PRESSURE |      |        | LA23     | 141 | 7*31*73 - 08*03*73  |         | 48/ 32        | 15   | L/O-100 DRB     |       | ( 0)  | 2070 | PUBLISHED  |
| LARC LOW TURBULANCE PRESSURE |      |        | LA9C     | 148 | 10*31*73 - 11*02*73 |         | 140/ 32       | 28   | 089B, 139 NOSE  |       | ( 0)  | 2056 | PUBLISHED  |
| LARC LOW TURBULANCE PRESSURE |      |        | LA21A    | 202 | 8*19*74 - 08*30*74  |         | 160/144       | 55   | 089B, 139 NOSE  |       | ( 0)  |      | UNASSIGNED |
| LARC LOW TURBULANCE PRESSURE |      |        | LA21B    | 206 | 1*29*75 - 02*05*75  |         | 80/ 88        | 37   | 089B, 139 NOSE  |       | ( 0)  |      | UNASSIGNED |
| LARC LOW TURBULANCE PRESSURE |      |        | LA36B    | 214 | 6* 3*75 - 06*05*75  |         | 75/ 27        | 41   | 140A.B          |       | ( 32) | 2292 | PUBLISHED  |
| LARC LOW TURBULANCE PRESSURE |      |        | LA61A    | 219 | 8*25*75 - 09*10*75  |         | 40/ 40        | 138  | 140C/REMOTE ELE |       | ( 44) | 2278 | CANCEL     |
| LARC LOW TURBULANCE PRESSURE |      |        | LA73A    | 227 | 12*18*75 - 12*30*75 |         | 82/ 82        | 14   | 4/140A.B        |       | ( 69) | 2298 | PUBLISHED  |
| LARC LOW TURBULANCE PRESSURE |      |        | LA61B    | 228 | 1* 5*76 - 01*14*76  |         | 40/ 96        | 81   | 140C/REMOTE ELE |       | ( 44) | 2300 | PUBLISHED  |
| LARC LOW TURBULANCE PRESSURE |      |        | LA81     | 229 | 1*14*76 - 01*23*76  |         | 40/120        | 54   | DRB/TC (ALT)    |       | ( 0)  | 2296 | PUBLISHED  |
| LARC LOW TURBULANCE PRESSURE |      |        | LA73B    | 238 | 12*10*76 - 12*13*75 |         | 16/ 16        | 6    | 4/140A.B        |       | ( 69) | 2298 | PUBLISHED  |
| LARC LOW TURBULANCE PRESSURE |      |        | LA100A   | 239 | 12*15*76 - 12*17*76 |         | 14/ 14        | 4    | GENERIC         |       | ( 0)  |      | UNASSIGNED |
| LARC LOW TURBULANCE PRESSURE |      |        | LA98     | 240 | 1*28*77 - 02*02*77  |         | 32/ 64        | 42   | L.E. VORTEX     |       | ( 0)  |      | UNASSIGNED |
| LARC LOW TURBULANCE PRESSURE |      |        | LA100B   | 241 | 2* 2*77 - 02*07*77  |         | 25/ 25        | 24   | GENERIC         |       | ( 0)  |      | UNASSIGNED |



# PHASE C/D WIND TUNNEL TESTING PER FACILITY

AUG 01, 1984

| FACILITY                     | WIND | TUNNEL | TEST NO. | TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.            | MODEL | (ID)  | NO.  | DATAMAN STATUS |
|------------------------------|------|--------|----------|----------|---------------------|----------------|---------------|------|-----------------|-------|-------|------|----------------|
| LARC 8-FT TRANSONIC PRESSURE |      |        | 626      | LA1      | 11*19*72 - 12*19*72 |                | 60/ 84        | 73   | ATP             |       | ( 6)  | 2002 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 643      | LA6      | 4*12*73 - 04*18*73  |                | 72/ 72        | 108  | 089B, 139 NOSE  |       | ( 0)  | 2040 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 648      | LA17     | 5* 4*73 - 05*14*73  |                | 80/ 96        | 102  | L/O-100 ORB     |       | ( 0)  | 2046 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 653      | LA20A    | 6*22*73 - 07*06*73  |                | 160/160       | 81   | 089B, 139NOSE   |       | (202) | 2107 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 658      | LA20C    | 8*29*73 - 08*31*73  |                | 160/ 44       | 50   | 089B, 139NOSE   |       | (202) | 2107 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 661      | DA25     | 9*14*73 - 09*21*73  |                | 80/ 88        | 156  | 4/140A,B        |       | ( 49) | 2089 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 662      | SA2FB    | 9*24*73 - 09*28*73  |                | 60/ 52        | 60   | SRB             |       | (454) | 2088 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 667      | IA41     | 12*11*73 - 12*14*73 |                | 80/ 64        | 86   | 4/140A,B        |       | ( 67) | 2118 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 669      | LA38A    | 12*14*73 - 12*21*73 |                | 56/ 56        | 59   | 140A,B          |       | ( 0)  | 2121 | CANCEL         |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 668      | DA106    | 12*17*73 - 12*18*73 |                | 20/ 24        | 18   | 4/140A,B        |       | ( 67) | 2120 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 676      | LA38B    | 3*27*74 - 03*29*74  |                | 48/ 41        | 37   | 140A,B          |       | ( 0)  | 2239 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 677      | LA44     | 4* 2*74 - 04*09*74  |                | 160/ 96       | 54   | 4/140A,B        |       | ( 0)  | 2200 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 680      | LA48     | 4*10*74 - 04*15*74  |                | 48/ 48        | 99   | 089B-MOD NOSE   |       | ( 0)  | 2184 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 684      | LA51     | 5*24*74 - 05*31*74  |                | 80/ 72        | 140  | 140A,B          |       | ( 0)  | 2183 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 686      | DA116    | 6*10*74 - 06*14*74  |                | 80/ 80        | 81   | 4/140A,B        |       | ( 49) | 2186 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 687      | DA102    | 6*17*74 - 06*18*74  |                | 18/ 18        | 110  | 4/140A,B        |       | ( 36) | 2229 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 692      | LA208    | 8*21*74 - 08*26*74  |                | 160/ 54       | 20   | 089B, 139NOSE   |       | (202) | 2107 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 693      | IA43     | 8*26*74 - 09*03*74  |                | 80/ 80        | 105  | 4/140A,B        |       | ( 72) | 2204 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 699      | LA56     | 11*11*74 - 11*22*74 |                | 160/176       | 147  | VEH. 5          |       | ( 0)  | 2224 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 703      | LA59     | 12*20*74 - 01*07*75 |                | 96/ 96        | 146  | 4/140A,B        |       | ( 72) | 2233 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 714      | LA69     | 4*24*75 - 04*29*75  |                | 64/ 64        | 98   | 5/140C          |       | ( 72) | 2257 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 717      | LA62     | 5*14*75 - 05*23*75  |                | 40/ 80        | 301  | 140C/REMOTE ELE |       | ( 44) | 2264 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 740      | LA72     | 3*26*76 - 03*31*76  |                | 72/ 72        | 30   | 4/140A,B        |       | ( 69) | 2309 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 749      | IA93     | 5*10*76 - 05*14*76  |                | 80/ 96        | 255  | 5/140C          |       | ( 72) | 2326 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 758      | LA91     | 9* 3*76 - 09*15*76  |                | 80/104        | 214  | 140C/REMOTE ELE |       | ( 44) | 2352 | PUBLISHED      |
| LARC 8-FT TRANSONIC PRESSURE |      |        | 764      | LA92     | 11*11*76 - 11*19*76 |                | 80/152        | 67   | OV101           |       | (201) | 2362 | IN PROCESS     |

|                              |     |       |                     |         |     |                 |       |      |            |
|------------------------------|-----|-------|---------------------|---------|-----|-----------------|-------|------|------------|
| LARC 8-FT TRANSONIC PRESSURE | 769 | LA99  | 2*17*77 - 02*28*77  | 104/104 | 147 | TAILCONE        | (201) | 2373 | PUBLISHED  |
| LARC 8-FT TRANSONIC PRESSURE | 779 | IA244 | 5*24*77 - 06*01*77  | 80/ 76  | 154 | 5/140C          | ( 72) | 2391 | PUBLISHED  |
| LARC 8-FT TRANSONIC PRESSURE | 786 | LA111 | 8* 3*77 - 08*05*77  | 95/ 40  | 95  | 140C SILTS      | ( 44) | 2395 | PUBLISHED  |
| LARC 8-FT TRANSONIC PRESSURE | 787 | LA113 | 8* 5*77 - 09*08*77  | 32/ 28  | 17  | 5/140C          | ( 72) | 2397 | PUBLISHED  |
| LARC 8-FT TRANSONIC PRESSURE | 803 | LA115 | 2* 1*78 - 02*06*78  | 45/ 45  | 175 | 140C/REMOTE ELE | ( 44) | 2409 | PUBLISHED  |
| LARC 8-FT TRANSONIC PRESSURE | 804 | LA116 | 2* 6*78 - 02*06*78  | 32/ 32  | 0   | 140C            | (201) | 2411 | CANCEL     |
| LARC 8-FT TRANSONIC PRESSURE | 865 | LA143 | 12*21*79 - 01*08*80 | 80/ 88  | 0   | VEH 102         | (106) |      | UNASSIGNED |
| LARC 8-FT TRANSONIC PRESSURE | 905 | DS53A | 12*12*80 - 01*01*81 | 80/104  | 0   | TPS             | (717) | 2503 | PUBLISHED  |
| LARC 8-FT TRANSONIC PRESSURE | 909 | DS53B | 3*23*81 - 04*01*81  | 80/108  | 0   | TPS             | (719) | 2503 | PUBLISHED  |

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# PHASE C/D WIND TUNNEL TESTING PER FACILITY

AUG 01. 1984

| FACILITY                     | WIND | TUNNEL | NO. | TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS           | REF. | MODEL | (ID)  | NO.  | STATUS     |
|------------------------------|------|--------|-----|----------|---------------------|----------------|---------------|----------------|------|-------|-------|------|------------|
| LARC 16-FT TRANSONIC DYNAMIC |      |        | 210 | FA1      | 10*10*72 - 11*15*72 | 416/400        | 200           | PRE-ATP/001    |      |       | ( 10) |      | UNASSIGNED |
| LARC 16-FT TRANSONIC DYNAMIC |      |        | 246 | DS7      | 8*12*74 - 08*30*74  | 120/120        | 30            | 4/1408         |      |       | ( 55) | 2363 | PUBLISHED  |
| LARC 16-FT TRANSONIC DYNAMIC |      |        | 246 | DS6      | 9* 2*74 - 09*12*74  | 120/104        | 27            | 4/1408         |      |       | ( 54) | 2365 | PUBLISHED  |
| LARC 16-FT TRANSONIC DYNAMIC |      |        | 258 | DS22     | 4* 7*75 - 04*10*75  | 80/ 58         | 16            | 4/140A,B       |      |       | ( 55) |      | UNASSIGNED |
| LARC 16-FT TRANSONIC DYNAMIC |      |        | 266 | DS20     | 10*22*75 - 10*30*75 | 120/120        | 14            | 5/140C         |      |       | ( 79) |      | UNASSIGNED |
| LARC 16-FT TRANSONIC DYNAMIC |      |        | 275 | SA32F    | 3*22*76 - 04*02*76  | 150/150        | 94            | SRB            |      |       | ( 0)  |      | UNASSIGNED |
| LARC 16-FT TRANSONIC DYNAMIC |      |        | 300 | DS21     | 5* 8*78 - 05*26*78  | 200/120        | 0             | 5/140C FLUTTER |      |       | ( 80) |      | UNASSIGNED |
| LARC 16-FT TRANSONIC DYNAMIC |      |        | 306 | IS20     | 7*24*78 - 08*25*78  | 200/216        | 0             | 5/140C + TOWER |      |       | (100) |      | UNASSIGNED |
| LARC 16-FT TRANSONIC DYNAMIC |      |        | 308 | IS10     | 9*18*78 - 10*08*78  | 200/128        | 0             | 5/140C FLUTTER |      |       | ( 80) |      | UNASSIGNED |

PHASE C/D WIND TUNNEL TESTING PER FACILITY

AUG 01, 1984

| FACILITY          | WIND | TUNNEL | TEST NO. | SCHED. | TESTING COMPL.      | HOURS EST/CHG | RUNS | REF.           | MODEL | (ID)  | NO.        | STATUS    |
|-------------------|------|--------|----------|--------|---------------------|---------------|------|----------------|-------|-------|------------|-----------|
| LARC UNITARY PLAN |      |        | 1002     | MA5    | 9*15*72 - 09*25*72  | 80/ 60        | 30   | PRE-ATP/001    |       | ( 10) | 2001       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 995      | LA4B   | 10*25*72 - 11*01*72 | 80/ 60        | 32   | L/D-100 ORB.   |       | ( 0)  | 2033       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1014     | LA4A   | 11* 2*72 - 12*06*72 | 80/ 75        | 37   | L/D-100 ORB.   |       | ( 0)  | 2033       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1007     | OA7    | 11*27*72 - 12*08*72 | 100/100       | 110  | ATP            |       | ( 6)  | 2014       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 995      | LA4C   | 2*19*73 - 02*23*73  | 80/ 50        | 43   | L/D-100 ORB.   |       | ( 0)  | 2033       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1023     | LA8A   | 4*18*73 - 04*24*73  | 50/ 45        | 58   | 089B, 139 NOSE |       | ( 0)  | 2054       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1034     | LA8B   | 5* 7*73 - 05*15*73  | 50/ 70        | 50   | 089B, 139 NOSE |       | ( 0)  | 2054       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1031     | MA7    | 5*14*73 - 05*18*73  | 50/ 50        | 81   | 2A/089B        |       | ( 6)  | 2069       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1035     | OA44-1 | 6* 1*73 - 06*08*73  | 40/ 54        | 47   | 2A/089B        |       | ( 18) | 2057       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1035     | OA44-2 | 6*11*73 - 06*15*73  | 40/ 54        | 36   | 3/139B         |       | ( 42) | 2057       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1039     | LA8C   | 7* 3*73 - 07*06*73  | 50/ 30        | 14   | 089B, 139 NOSE |       | ( 0)  | 2054       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1041     | IH16   | 7* 6*73 - 07*13*73  | 35/ 80        | 12   | 2A/089B        |       | ( 41) | 2166       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1040     | LA8D   | 7*10*73 - 07*13*73  | 50/ 42        | 37   | 089B, 139 NOSE |       | ( 0)  | 2090       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1043     | OA70   | 7*20*73 - 7*26*73   | 30/ 40        | 66   | 3/139B         |       | ( 42) | 2073       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1049     | LA14B  | 8* 6*73 - 08*16*73  | 100/ 90       | 47   | 089B, 139 NOSE |       | (202) | 2106       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1046     | LA14A  | 8*17*73 - 08*28*73  | 100/ 80       | 20   | 089B, 139 NOSE |       | (202) | 2106       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1055     | LA14C  | 9* 5*73 - 09*10*73  | 100/ 40       | 45   | 089B, 139 NOSE |       | (202) | 2106       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1057     | OA20A  | 9*10*73 - 09*13*73  | 50/ 40        | 29   | 4/140A,B       |       | ( 49) | 2083       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1063     | OA64   | 10*30*73 - 10*31*73 | 50/ 30        | 28   | 4/140A,B       |       | ( 36) | 2108       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1063     | IA35   | 11* 1*73 - 11*02*73 | 60/ 30        | 22   | 4/140A,B       |       | ( 36) | 2108       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1057     | OA20C  | 11* 5*73 - 11*08*73 | 40/ 35        | 19   | 4/140A,B       |       | ( 49) | 2147       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1065     | LA24A  | 11* 9*73 - 11*12*73 | 40/ 20        | 6    | 089B, 139 NOSE |       | (202) | UNASSIGNED |           |
| LARC UNITARY PLAN |      |        | 1059     | IH4    | 11*12*73 - 11*16*73 | 40/ 64        | 47   | 3/139          |       | ( 26) | 2138       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1056     | IA42A  | 11*27*73 - 12*04*73 | 40/ 70        | 62   | 4/140A,B       |       | ( 67) | 2119       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1071     | IH1    | 12* 3*73 - 12*14*73 | 100/100       | 44   | 3/139          |       | ( 22) | 2153       | PUBLISHED |
| LARC UNITARY PLAN |      |        | 1058     | LA14D  | 12* 5*73 - 12*07*73 | 100/ 30       | 9    | 089B, 139 NOSE |       | (202) | 2106       | PUBLISHED |

|                   |      |       |                     |        |     |                 |       |      |            |
|-------------------|------|-------|---------------------|--------|-----|-----------------|-------|------|------------|
| LARC UNITARY PLAN | 1073 | IA42B | 12*17*73 - 12*21*73 | 60/ 50 | 42  | 4/140A.B        | ( 67) | 2119 | PUBLISHED  |
| LARC UNITARY PLAN | 1075 | LA39A | 12*26*73 - 12*28*73 | 50/ 24 | 9   | 140A.B          | ( 0)  | 2188 | PUBLISHED  |
| LARC UNITARY PLAN | 1065 | LA24B | 1* 2*74 - 01*07*74  | 40/ 34 | 20  | 089B, 139 NOSE  | (202) |      | UNASSIGNED |
| LARC UNITARY PLAN | 1075 | LA39B | 2*11*74 - 02*15*74  | 50/ 50 | 36  | 140A.B          | ( 0)  | 2188 | PUBLISHED  |
| LARC UNITARY PLAN | 1074 | LA43A | 3* 4*74 - 03*22*74  | 50/ 90 | 42  | 4/140A.B        | ( 0)  | 2199 | PUBLISHED  |
| LARC UNITARY PLAN | 1087 | SA25F | 3* 4*74 - 03*11*74  | 40/ 30 | 16  | SRB             | (454) | 2150 | PUBLISHED  |
| LARC UNITARY PLAN | 1093 | LA43B | 3*18*74 - 03*27*74  | 50/ 70 | 28  | 4/140A.B        | ( 0)  | 2199 | PUBLISHED  |
| LARC UNITARY PLAN | 1075 | LA39C | 4* 1*74 - 04*08*74  | 50/ 80 | 26  | 140A.B          | ( 0)  | 2188 | PUBLISHED  |
| LARC UNITARY PLAN | 1097 | OA20B | 4* 8*74 - 04*12*74  | 50/ 43 | 30  | 4/140A.B        | ( 49) | 2163 | PUBLISHED  |
| LARC UNITARY PLAN | 1101 | LA49A | 4*24*74 - 04*26*74  | 20/ 30 | 37  | 089B-MOD NOSE   | ( 0)  | 2182 | PUBLISHED  |
| LARC UNITARY PLAN | 1111 | LA49B | 7*15*74 - 07*17*74  | 20/ 25 | 105 | 089B-MOD NOSE   | ( 0)  | 2182 | PUBLISHED  |
| LARC UNITARY PLAN | 1115 | SH12F | 7*29*74 - 08*07*74  | 80/ 80 | 42  | SRB             | ( 0)  | 2216 | PUBLISHED  |
| LARC UNITARY PLAN | 1088 | IA44A | 8*12*74 - 08*16*74  | 40/ 50 | 27  | 4/140A.B        | ( 72) | 2206 | PUBLISHED  |
| LARC UNITARY PLAN | 1119 | IA44B | 8*19*74 - 08*23*74  | 40/ 80 | 47  | 4/140A.B        | ( 72) | 2206 | PUBLISHED  |
| LARC UNITARY PLAN | 1092 | LA46A | 9*13*74 - 09*24*74  | 96/ 96 | 61  | 140A.B ORB      | ( 0)  | 2228 | PUBLISHED  |
| LARC UNITARY PLAN | 1117 | LA46B | 9*24*74 - 10*10*74  | 88/ 88 | 51  | 140A.B ORB      | ( 0)  | 2228 | PUBLISHED  |
| LARC UNITARY PLAN | 1118 | LA63A | 7*18*75 - 07*18*75  | 40/ 14 | 63  | 140C/REMOTE ELE | ( 44) | 2270 | PUBLISHED  |
| LARC UNITARY PLAN | 1147 | LA71B | 7*21*75 - 07*31*75  | 48/ 48 | 30  | 4/140A.B        | ( 69) | 2271 | PUBLISHED  |
| LARC UNITARY PLAN | 1151 | LA63B | 9*12*75 - 09*17*75  | 40/ 38 | 19  | 140C/REMOTE ELE | ( 34) | 2279 | PUBLISHED  |
| LARC UNITARY PLAN | 1132 | LA71A | 10*17*75 - 10*22*75 | 48/ 64 | 15  | 4/140A.B        | ( 69) | 2271 | PUBLISHED  |
| LARC UNITARY PLAN | 1159 | SH13F | 10*31*75 - 11*18*75 | 80/156 | 124 | SRB             | ( 0)  |      | UNASSIGNED |
| LARC UNITARY PLAN | 1173 | LA75  | 4* 6*76 - 04*16*76  | 90/ 90 | 283 | 140C/REMOTE ELE | ( 44) | 2318 | PUBLISHED  |
| LARC UNITARY PLAN | 1152 | IA94A | 4*18*76 - 04*23*76  | 40/ 60 | 92  | 5/140C          | ( 72) | 2323 | PUBLISHED  |
| LARC UNITARY PLAN | 1177 | IA94B | 4*26*76 - 05*04*76  | 80/ 84 | 144 | 5/140C          | ( 72) | 2324 | PUBLISHED  |
| LARC UNITARY PLAN | 1194 | LA101 | 7*18*77 - 05*24*77  | 55/ 55 | 200 | 140C/REMOTE ELE | ( 44) | 2390 | PUBLISHED  |
| LARC UNITARY PLAN | 1207 | LA124 | 6* 7*77 - 06*10*77  | 40/ 40 | 19  | 5/140C          | ( 74) | 2426 | PUBLISHED  |
| LARC UNITARY PLAN | 1212 | LA110 | 8* 8*77 - 08*10*77  | 30/ 30 | 60  | 140C SILTS      | ( 44) | 2396 | PUBLISHED  |
| LARC UNITARY PLAN | 1217 | LA114 | 8*23*77 - 08*31*77  | 30/ 60 | 70  | 140C SILTS      | ( 44) | 2399 | PUBLISHED  |
| LARC UNITARY PLAN | 1243 | LA125 | 7* 3*78 - 07*05*78  | 16/ 48 | 41  | VEH. 102        | (105) | 2432 | PUBLISHED  |
| LARC UNITARY PLAN | 1267 | IA180 | 3*26*79 - 03*30*79  | 48/ 53 | 37  | ET FORETANK     | ( 68) | 2457 | PUBLISHED  |
| LARC UNITARY PLAN | 1299 | LA131 | 1* 8*80 - 02*01*80  | 80/144 | 624 | VEH 102         | (106) | 2478 | PUBLISHED  |

|                   |      |        |                     |         |     |         |       |      |            |
|-------------------|------|--------|---------------------|---------|-----|---------|-------|------|------------|
| LARC UNITARY PLAN | 1311 | 0A255A | 10*13*80 - 11*07*80 | 240/228 | 268 | OV102   | ( 70) | 2498 | PUBLISHED  |
| LARC UNITARY PLAN | 1358 | 0A255B | 11* 8*80 - 11*21*80 | 240/132 | 100 | OV102   | ( 70) | 2498 | PUBLISHED  |
| LARC UNITARY PLAN | 1315 | 0A255C | 11*24*80 - 12*15*80 | 240/140 | 27  | OV102   | ( 70) | 2498 | PUBLISHED  |
| LARC UNITARY PLAN | 1319 | 0A255D | 1*12*81 - 02*02*81  | 240/160 | 90  | OV102   | ( 70) | 2498 | PUBLISHED  |
| LARC UNITARY PLAN | 1345 | LA145B | 9*11*81 - 09*17*81  | 80/ 50  | 37  | 140C    | (203) | 2336 | PUBLISHED  |
| LARC UNITARY PLAN | 1390 | LA145A | 9*28*81 - 10*08*81  | 80/ 90  | 32  | 140C    | (203) | 2336 | PUBLISHED  |
| LARC UNITARY PLAN | 1394 | MA37   | 11* 2*81 - 11*04*81 | 40/ 24  | 100 | VEH 102 | (106) |      | UNASSIGNED |

AUG 01, 1984

## PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY             | WIND | TUNNEL | TEST NO. | SCHED. | TESTING             | HOURS EST/CHG | RUNS | REF.          | MODEL | (ID)  | NO.  | STATUS     |
|----------------------|------|--------|----------|--------|---------------------|---------------|------|---------------|-------|-------|------|------------|
| LARC 16-FT TRANSONIC |      |        | 149      | LA36A  | 11* 5*73 - 11*11*73 | 75/ 75        | 22   | 140A.B        |       | ( 42) |      | UNASSIGNED |
| LARC 16-FT TRANSONIC |      |        | 243      | SA9F   | 7* 8*74 - 07*29*74  | 150/256       | 90   | SRB/DROGUE    |       | ( 0)  |      | UNASSIGNED |
| LARC 16-FT TRANSONIC |      |        | 295      | MA19   | 8*16*74 - 09*12*74  | 120/144       | 36   | GULFSTREAM 2  |       | ( 0)  |      | UNASSIGNED |
| LARC 16-FT TRANSONIC |      |        | 312      | OA224  | 2*23*76 - 03*24*76  | 80/304        | 25   | VEH 102 (ADS) |       | ( 57) | 2329 | PUBLISHED  |
| LARC 16-FT TRANSONIC |      |        | 325      | OA270C | 4* 8*78 - 04*28*78  | 20/ 72        | 80   | VEH 102       |       | (104) | 2419 | PUBLISHED  |
| LARC 16-FT TRANSONIC |      |        | 325      | OA270B | 5* 1*78 - 05*12*78  | 40/ 80        | 357  | VEH. 102      |       | (105) | 2419 | PUBLISHED  |
| LARC 16-FT TRANSONIC |      |        | 325      | OA270A | 5*15*78 - 06*09*78  | 60/160        | 156  | VEH 102       |       | ( 39) | 2430 | PUBLISHED  |
| LARC 16-FT TRANSONIC |      |        | 341      | LA132  | 10*11*79 - 11*01*79 | 40/ 80        | 18   | VEH 102       |       | ( 89) | 2471 | PUBLISHED  |
| LARC 16-FT TRANSONIC |      |        | 342      | LA140  | 12*26*79 - 01*03*80 | 80/ 80        | 17   | VEH. 102      |       | (105) | 2475 | PUBLISHED  |
| LARC 16-FT TRANSONIC |      |        | 352      | OA256  | 2* 2*81 - 02*09*81  | 80/ 32        | 0    | OV102         |       | ( 70) |      | UNASSIGNED |

PHASE C/D WIND TUNNEL TESTING PER FACILITY

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| FACILITY    | WIND             | TUNNEL | NO.  | TEST NO. | SCHED.              | TESTING | HOURS EST/CHG | RIINS | REF.          | MODEL | (ID)  | NO.  | STATUS     |
|-------------|------------------|--------|------|----------|---------------------|---------|---------------|-------|---------------|-------|-------|------|------------|
| LARC MACH 8 | VARIABLE DENSITY |        | 624  | LA16     | 6*2*72 - 08*23*72   |         | 60/ 64        | 72    | HRSI FILE     |       | ( 0)  | 2043 | PUBLISHED  |
| LARC MACH 8 | VARIABLE DENSITY |        | 3234 | OH1A-4   | 9*19*72 - 09*26*72  |         | 10/100        | 120   | PRE-ATP/001   |       | ( 38) |      | UNASSIGNED |
| LARC MACH 8 | VARIABLE DENSITY |        | 3234 | OH1A-3   | 9*19*72 - 09*26*72  |         | 10/100        | 120   | PRE-ATP/001   |       | ( 5)  |      | UNASSIGNED |
| LARC MACH 8 | VARIABLE DENSITY |        | 3234 | OH1A-2   | 9*19*72 - 09*26*72  |         | 10/100        | 120   | PRE-ATP/001   |       | ( 4)  |      | UNASSIGNED |
| LARC MACH 8 | VARIABLE DENSITY |        | 3234 | OH1A-1   | 9*19*72 - 09*26*72  |         | 10/ 10        | 130   | PRE-ATP/001   |       | ( 3)  |      | UNASSIGNED |
| LARC MACH 8 | VARIABLE DENSITY |        | 3283 | OH1B     | 11* 6*72 - 11*08*72 |         | 40/ 24        | 35    | PRE-ATP/001   |       | ( 4)  |      | UNASSIGNED |
| LARC MACH 8 | VARIABLE DENSITY |        | 3619 | OH40     | 1*30*73 - 02*05*73  |         | 36/ 40        | 52    | 2A/089B       |       | ( 31) | 2049 | PUBLISHED  |
| LARC MACH 8 | VARIABLE DENSITY |        | 3778 | OH41A    | 3*1*73 - 03*28*73   |         | 40/ 64        | 78    | 2A/089B       |       | ( 33) | 2075 | PUBLISHED  |
| LARC MACH 8 | VARIABLE DENSITY |        | 4060 | OH41B    | 5* 8*73 - 05*10*73  |         | 40/ 24        | 20    | 2A/089B       |       | ( 38) | 2076 | PUBLISHED  |
| LARC MACH 8 | VARIABLE DENSITY |        | 4080 | OH42A    | 5*14*73 - 05*16*73  |         | 20/ 20        | 20    | 3/139, 139A   |       | ( 46) | 2101 | PUBLISHED  |
| LARC MACH 8 | VARIABLE DENSITY |        | 4080 | OH42B    | 5*25*73 - 06*01*73  |         | 40/ 48        | 64    | 3/139, 139A   |       | ( 46) | 2101 | PUBLISHED  |
| LARC MACH 8 | VARIABLE DENSITY |        | 644  | OH13     | 6*13*73 - 06*13*73  |         | 8/ 8          | 18    | 2A/089B       |       | ( 41) | 2096 | PUBLISHED  |
| LARC MACH 8 | VARIABLE DENSITY |        | 4080 | OH42C    | 6*14*73 - 06*15*73  |         | 20/ 16        | 26    | 3/139A, W/CAN |       | ( 46) | 2101 | PUBLISHED  |
| LARC MACH 8 | VARIABLE DENSITY |        | 646  | IH17     | 10* 9*73 - 10*16*73 |         | 40/ 48        | 59    | 2A/089B       |       | ( 41) | 2105 | PUBLISHED  |
| LARC MACH 8 | VARIABLE DENSITY |        | 648  | OH14     | 10*17*73 - 10*18*73 |         | 16/ 16        | 29    | 3A/139B       |       | ( 50) | 2117 | PUBLISHED  |
| LARC MACH 8 | VARIABLE DENSITY |        | 4556 | OH46     | 11*12*73 - 12*07*73 |         | 40/ 72        | 100   | 4/140B        |       | ( 90) | 2350 | PUBLISHED  |



# PHASE C/D WIND TUNNEL TESTING PER FACILITY

AUG 01, 1984

| FACILITY                  | WIND | TUNNEL | NO. | TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.            | MODEL | (ID)   | NO.  | STATUS     |
|---------------------------|------|--------|-----|----------|---------------------|----------------|---------------|------|-----------------|-------|--------|------|------------|
| LARC 31-IN CONT-FLOW HYP. |      |        | 085 | LA3      | 8*23*72 - 11*16*72  |                | 40/ 46        | 19   | L/D-100 ORB.    |       | ( O )  | 2031 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. |      |        | 089 | MA4      | 10* 1*72 - 10*02*72 |                | 16/ 16        | 12   | RI ATP ORBITER  |       | ( O )  | 2008 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. |      |        | 096 | LA11     | 7*11*73 - 07*20*73  |                | 24/ 58        | 85   | 089B, 139 NOSE  |       | ( O )  | 2066 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. |      |        | 097 | LA32A    | 7*25*73 - 08*03*73  |                | 180/ 64       | 16   | F.S. TILE ARRAY |       | ( O )  | 2168 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. |      |        | 098 | LA31     | 8* 9*73 - 08*16*73  |                | 48/ 72        | 28   | LARC ORB        |       | ( O )  | 2047 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. |      |        | 099 | LA13A    | 8*17*73 - 08*28*73  |                | 40/ 64        | 15   | 089B, 139 NOSE  |       | ( O )  | 2135 | CANCEL     |
| LARC 31-IN CONT-FLOW HYP. |      |        | 100 | LA25     | 8*30*73 - 09*07*73  |                | 40/ 48        | 126  | 3/139B          |       | ( 32 ) | 2126 | CANCEL     |
| LARC 31-IN CONT-FLOW HYP. |      |        | 099 | LA13B    | 10* 9*73 - 10*15*73 |                | 40/ 40        | 16   | 089B, 139 NOSE  |       | ( O )  | 2135 | CANCEL     |
| LARC 31-IN CONT-FLOW HYP. |      |        | 101 | DA85     | 10*31*73 - 11*08*73 |                | 50/ 60        | 75   | 3/139B          |       | ( 32 ) | 2113 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. |      |        | 102 | LA35     | 11*12*73 - 11*13*73 |                | 16/ 20        | 19   | 3/139B          |       | ( 32 ) | 2127 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. |      |        | 099 | LA13C    | 11*14*73 - 11*16*73 |                | 40/ 24        | 31   | 089B, 139 NOSE  |       | ( O )  | 2135 | CANCEL     |
| LARC 31-IN CONT-FLOW HYP. |      |        | 103 | LA33     | 11*19*73 - 11*26*73 |                | 40/ 48        | 26   | 089B, 139 NOSE  |       | ( O )  |      | UNASSIGNED |
| LARC 31-IN CONT-FLOW HYP. |      |        | 097 | LA32B    | 11*28*73 - 12*03*73 |                | 180/120       | 43   | F.S. TILE ARRAY |       | ( O )  | 2168 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. |      |        | 104 | LA47A    | 1* 2*74 - 01*09*74  |                | 40/120        | 43   | 140A/B ORB      |       | ( O )  | 2191 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. |      |        | 105 | LA34     | 1*17*74 - 01*31*74  |                | 40/112        | 55   | F.S. TILE ARRAY |       | ( O )  | 2328 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. |      |        | 107 | IA58     | 2* 1*74 - 02*13*74  |                | 32/ 40        | 34   | 3/139,089B      |       | ( 32 ) | 2133 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. |      |        | 108 | IA60     | 2*14*74 - 02*20*74  |                | 15/ 36        | 55   | 3/139,089B      |       | ( 32 ) | 2137 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. |      |        | 109 | DA105    | 2*20*74 - 2*22*74   |                | 16/ 20        | 50   | 4/140A,B        |       | ( 32 ) | 2137 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. |      |        | 110 | DA90     | 3* 4*74 - 03*06*74  |                | 25/ 40        | 43   | 4/140A,B        |       | ( 72 ) | 2149 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. |      |        | 104 | LA47B    | 6*10*74 - 06*24*74  |                | 40/ 88        | 35   | 140A/B ORB      |       | ( O )  | 2191 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. |      |        | 112 | OH51-3   | 6*26*74 - 07*03*74  |                | 12/100        | 100  | 4/140B          |       | ( 90 ) | 2368 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. |      |        | 112 | OH51-2   | 6*26*74 - 07*03*74  |                | 12/180        | 280  | 3/139B          |       | ( 46 ) | 2368 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. |      |        | 112 | OH51-1   | 6*26*74 - 07*03*74  |                | 24/ 30        | 50   | 3/139B          |       | ( 64 ) | 2368 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. |      |        | 104 | LA47C    | 7* 8*74 - 07*10*74  |                | 40/ 16        | 18   | 140A/B ORB      |       | ( O )  | 2191 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. |      |        | 113 | DA82     | 8*12*74 - 08*16*74  |                | 40/ 48        | 96   | 4/140A,B        |       | ( 32 ) | 2195 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. |      |        | 114 | LA57A    | 10* 2*74 - 10*24*74 |                | 84/144        | 58   | 140A,B          |       | ( O )  | 2454 | PUBLISHED  |

|                           |     |       |                    |         |     |           |       |      |            |
|---------------------------|-----|-------|--------------------|---------|-----|-----------|-------|------|------------|
| LARC 31-IN CONT-FLOW HYP. | 118 | MA22  | 5* 6*75 - 06*03*75 | 100/168 | 357 | 4/140A.B  | ( 32) | 2267 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. | 114 | LA57B | 6* 4*75 - 06*06*75 | 84/ 24  | 10  | 140A.B    | ( 0)  | 2454 | PUBLISHED  |
| LARC 31-IN CONT-FLOW HYP. | 130 | LA93  | 3*16*77 - 04*21*77 | 80/ 56  | 34  | NOSE CONE | ( 0)  | 2383 | IN PROCESS |

PHASE C/D WIND TUNNEL TESTING PER FACILITY

AUG 01, 1984

| FACILITY              | WIND | TUNNEL | NO. | TEST NO. | SCHED.  | TESTING    | COMPL. | HOURS EST/CHG | RUNS | REF. | MODEL | (ID)  | NO.  | DATAMAN | STATUS    |
|-----------------------|------|--------|-----|----------|---------|------------|--------|---------------|------|------|-------|-------|------|---------|-----------|
| LARC 4-FT. HYPERSONIC |      |        | 446 | LA87     | 8-26-75 | - 08-29-75 |        | 36/ 36        | 4    | 089B |       | ( 13) | 2311 |         | PUBLISHED |
| LARC 4-FT. HYPERSONIC |      |        | 267 | LA78     | 1-15-76 | - 01-28-76 |        | 16/ 16        | 4    | 089B |       | ( 13) | 2311 |         | PUBLISHED |

PHASE C/D WIND TUNNEL TESTING PER FACILITY

AUG 01, 1984

| FACILITY   | WIND       | TUNNEL | NO.  | TEST NO. | SCHED.  | TESTING    | COMPL.  | HOURS EST/CHG | RUNS    | REF.     | MODEL | (ID) | DATAMAN NO. | STATUS |
|------------|------------|--------|------|----------|---------|------------|---------|---------------|---------|----------|-------|------|-------------|--------|
| LARC 20-IN | HYPERSONIC | (M=6)  | 6441 | LA15     | 8* 3*73 | - 09*24*73 | 120/240 | 69            | 089B    | 139 NOSE | ( 0)  | 2079 | PUBLISHED   |        |
| LARC 20-IN | HYPERSONIC | (M=6)  | 6456 | LA54     | 8*14*74 | - 08*19*74 | 28/ 28  | 5             | 140C    | ORB.     | ( 0)  | 2213 | IN PROCESS  |        |
| LARC 20-IN | HYPERSONIC | (M=6)  | 6458 | LA52     | 8*26*74 | - 08*30*74 | 72/ 40  | 38            | 140A    | B        | ( 0)  | 2220 | PUBLISHED   |        |
| LARC 20-IN | HYPERSONIC | (M=6)  | 6468 | LA88     | 5*21*75 | - 05*21*75 | 16/ 16  | 6             | 089B    |          | ( 13) | 2311 | PUBLISHED   |        |
| LARC 20-IN | HYPERSONIC | (M=6)  | 6502 | LA112    | 2* 3*77 | - 02*05*77 | 24/ 24  | 0             | 5/140C  |          | ( 0)  |      | UNASSIGNED  |        |
| LARC 20-IN | HYPERSONIC | (M=6)  | 6546 | LA141A   | 1*12*80 | - 02*01*80 | 80/148  | 0             | VEH 102 |          | ( 74) | 2477 | PUBLISHED   |        |
| LARC 20-IN | HYPERSONIC | (M=6)  | 6546 | LA141B   | 3*18*80 | - 05*01*80 | 80/200  | 0             | VEH 102 |          | ( 74) | 2477 | PUBLISHED   |        |
| LARC 20-IN | HYPERSONIC | (M=6)  | 6550 | LA141C   | 6*22*80 | - 07*01*80 | 80/ 10  | 0             | VEH 102 |          | ( 72) |      | UNASSIGNED  |        |
| LARC 20-IN | HYPERSONIC | (M=6)  | 6559 | 0A257    | 3*12*81 | - 04*20*81 | 80/324  | 380           | VEH 102 |          | ( 72) | 2466 | PUBLISHED   |        |

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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY                 | WIND | TUNNEL | NO. | TEST NO. | SCHED.   | TESTING    | HOURS EST/CHG | RUNS | REF.    | MODEL | (ID)  | NO.  | DATAMAN STATUS |
|--------------------------|------|--------|-----|----------|----------|------------|---------------|------|---------|-------|-------|------|----------------|
| LARC HYPERSONIC NITROGEN |      |        | 28  | IH19A    | 12*14*73 | - 12*26*73 | 40/ 40        | 22   | 2A/089B |       | ( 50) | 2157 | PUBLISHED      |
| LARC HYPERSONIC NITROGEN |      |        | 28  | IH19B    | 12*27*73 | - 01*08*74 | 20/ 40        | 22   | 2A/089B |       | ( 50) | 2157 | PUBLISHED      |
| LARC HYPERSONIC NITROGEN |      |        | 30  | DA89     | 7*15*74  | - 08*05*74 | 60/143        | 32   | 5/140C  |       | ( 74) | 2214 | PUBLISHED      |

PHASE C/D WIND TUNNEL TESTING PER FACILITY

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| FACILITY         | WIND | TUNNEL | NO. | TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS      | REF.  | MODEL | (ID)       | NO. | DATAMAN STATUS |
|------------------|------|--------|-----|----------|---------------------|----------------|---------------|-----------|-------|-------|------------|-----|----------------|
| LARC 20-IN FREON |      |        | 118 | IH18     | 10*19*73 - 10*30*73 | 40/ 40         | 22            | 2A/089B   | ( 41) | 2110  | PUBLISHED  |     |                |
| LARC 20-IN FREON |      |        | 121 | OH45     | 11* 2*73 - 11*09*73 | 40/ 46         | 22            | 3A/139B   | ( 50) | 2109  | PUBLISHED  |     |                |
| LARC 20-IN FREON |      |        | 220 | LA53A    | 8*12*74 - 08*14*74  | 80/ 32         | 3             | 5/140C    | ( 0)  | 2213  | IN PROCESS |     |                |
| LARC 20-IN FREON |      |        | 330 | LA95     | 6* 6*77 - 10*19*77  | 160/160        | 14            | NOSE CONE | ( 0)  |       | UNASSIGNED |     |                |
| LARC 20-IN FREON |      |        | 390 | LA142    | 2* 1*80 - 03*01*80  | 80/ 80         | 0             | VEH 102   | ( 74) |       | UNASSIGNED |     |                |

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## PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY          | WIND | TUNNEL | NO.  | TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.           | MODEL | (ID)   | NO.  | DATAMAN STATUS |
|-------------------|------|--------|------|----------|---------------------|----------------|---------------|------|----------------|-------|--------|------|----------------|
| LARC 22-IN HELIUM |      |        | 405  | LA22     | 6*19*72 - 06*30*72  | 06*30*72       | 160/152       | 31   | JSC 049        |       | ( 0 )  | 2034 | PUBLISHED      |
| LARC 22-IN HELIUM |      |        | 409  | MA2      | 9*18*72 - 11*06*72  | 11*06*72       | 40/ 80        | 31   | ATP            |       | ( 1 )  | 2003 | PUBLISHED      |
| LARC 22-IN HELIUM |      |        | 411  | LA2      | 10* 6*72 - 12*07*72 | 12*07*72       | 120/136       | 24   | L/D-100 ORB.   |       | ( 0 )  | 2023 | PUBLISHED      |
| LARC 22-IN HELIUM |      |        | 415  | DA72     | 7*30*73 - 08*24*73  | 08*24*73       | 40/176        | 42   | 3A/139B        |       | ( 34 ) | 2092 | PUBLISHED      |
| LARC 22-IN HELIUM |      |        | 418  | LA12A    | 9* 4*73 - 09*17*73  | 09*17*73       | 40/ 80        | 15   | 089B, 139 NOSE |       | ( 0 )  |      | UNASSIGNED     |
| LARC 22-IN HELIUM |      |        | 419  | LA12B    | 9*18*73 - 01*17*74  | 01*17*74       | 272/272       | 56   | 089B, 139 NOSE |       | ( 0 )  |      | UNASSIGNED     |
| LARC 22-IN HELIUM |      |        | 7422 | QA88     | 12*11*73 - 12*28*73 | 12*28*73       | 60/ 60        | 191  | 4/140A.B       |       | ( 34 ) | 2125 | PUBLISHED      |
| LARC 22-IN HELIUM |      |        | 7426 | LA40     | 5*13*74 - 06*07*74  | 06*07*74       | 40/ 40        | 25   | 139B           |       | ( 0 )  | 2176 | PUBLISHED      |
| LARC 22-IN HELIUM |      |        | 431  | DA109    | 8*26*74 - 08*29*74  | 08*29*74       | 60/ 88        | 32   | 5/140C         |       | ( 74 ) | 2205 | PUBLISHED      |
| LARC 22-IN HELIUM |      |        | 439  | LA68     | 2*26*75 - 03*20*75  | 03*20*75       | 120/120       | 26   | 140C ORB       |       | ( 0 )  | 2256 | IN PROCESS     |
| LARC 22-IN HELIUM |      |        | 445  | LA85     | 4* 7*76 - 05*24*76  | 05*24*76       | 88/ 88        | 64   | 140C           |       | ( 13 ) | 2343 | PUBLISHED      |
| LARC 22-IN HELIUM |      |        | 306  | LA538    | 1*12*77 - 01*18*77  | 01*18*77       | 80/ 72        | 16   | 5/140C         |       | ( 0 )  | 2213 | IN PROCESS     |
| LARC 22-IN HELIUM |      |        | 463  | LA102    | 12* 7*78 - 01*04*79 | 01*04*79       | 40/120        | 29   | STING EFFECT   |       | ( 0 )  |      | UNASSIGNED     |

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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY                      | WIND | TUNNEL | TEST NO. | SCHED.   | TESTING    | HOURS EST/CHG | RUNS | REF.    | MODEL | (ID)  | NO.  | DATAMAN STATUS |
|-------------------------------|------|--------|----------|----------|------------|---------------|------|---------|-------|-------|------|----------------|
| LARC 26-IN TRANSONIC BLOWDOWN |      |        | OS2      | 6* 4*73  | - 06*07*73 | 120/ 24       | 18   | ATP     |       | ( 24) | 2067 | PUBLISHED      |
| LARC 26-IN TRANSONIC BLOWDOWN |      |        | OS1      | 8* 6*73  | - 08*10*73 | 80/ 72        | 39   | 2A/0898 |       | ( 23) | 2094 | PUBLISHED      |
| LARC 26-IN TRANSONIC BLOWDOWN |      |        | IS4      | 10*18*73 | - 10*24*73 | 120/ 58       | 94   | 2A/0898 |       | ( 30) | 2146 | PUBLISHED      |



PHASE C/D WIND TUNNEL TESTING PER FACILITY

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| FACILITY              | WIND   | TUNNEL | NO. | TEST NO. | SCHED.     | TESTING | HOURS EST/CHG | RUNS      | REF.  | MODEL | (ID) | NO. | DATA MAN   | STATUS |
|-----------------------|--------|--------|-----|----------|------------|---------|---------------|-----------|-------|-------|------|-----|------------|--------|
| LARC HIGH RE'S NUMBER | HELIUM | 100    | FH1 | 11-15-72 | - 01-01-73 | 160/ 80 | 200           | TPS TILES | ( 15) |       |      |     | UNASSIGNED |        |

PHASE C/D WIND TUNNEL TESTING PER FACILITY

AUG 01, 1984

| FACILITY                      | WIND | TUNNEL | NO. | TEST NO. | SCHED.  | TESTING       | COMPL. | HOURS EST/CHG | RUNS | REF. | MODEL | (ID)  | NO.  | DATAMAN | STATUS    |
|-------------------------------|------|--------|-----|----------|---------|---------------|--------|---------------|------|------|-------|-------|------|---------|-----------|
| LARC 8-FT HIGH-TEMP STRUCTURE |      |        | 655 | SA2FA    | 7-24-73 | 73 - 08-07-73 |        | 60/176        | 176  | SRB  |       | (454) | 2088 |         | PUBLISHED |

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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY    | WIND   | TUNNEL | NO.  | TEST NO. | SCHED.  | TESTING COMPT. | HOURS EST/CHG | RUNS | REF.   | MODEL | (ID)  | NO.  | STATUS    |
|-------------|--------|--------|------|----------|---------|----------------|---------------|------|--------|-------|-------|------|-----------|
| LARC 60-FT. | VACUUM | SPHERE | 3289 | 0A99     | 3*26*74 | 4*12*74        | 50/ 52        | 14   | 3/1398 |       | ( 21) | 2172 | PUBLISHED |

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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY                 | WIND | TUNNEL | NO. | TEST NO. | SCHED.     | TESTING  | COMPL. | HOURS EST/CHG | RUNS | REF.       | MODEL | (ID)  | NO.  | DATAMAN STATUS |
|--------------------------|------|--------|-----|----------|------------|----------|--------|---------------|------|------------|-------|-------|------|----------------|
| LERC 10X10-FT SUPERSONIC |      |        | 035 | SA6F     | 12* 3*73 - | 01*16*74 |        | 120/208       | 0    | SRB        |       | (454) | 2161 | PUBLISHED      |
| LERC 10X10-FT SUPERSONIC |      |        | 038 | IH34     | 5* 5*75 -  | 09*03*75 |        | 240/264       | 57   | 5/140C     |       | ( 19) | 2282 | PUBLISHED      |
| LERC 10X10-FT SUPERSONIC |      |        | 041 | IH39     | 9*22*76 -  | 04*14*77 |        | 240/226       | 163  | 5/140C     |       | ( 19) | 2435 | PUBLISHED      |
| LERC 10X10-FT SUPERSONIC |      |        | 042 | DA234    | 6* 7*77 -  | 08*11*77 |        | 80/ 80        | 63   | ADS PROBES |       | ( 99) | 2400 | PUBLISHED      |
| LERC 10X10-FT SUPERSONIC |      |        | 044 | IH83     | 1*25*78 -  | 03*10*78 |        | 200/102       | 41   | 5/140C     |       | ( 19) | 2440 | PUBLISHED      |
| LERC 10X10-FT SUPERSONIC |      |        | 045 | IH11     | 4* 1*78 -  | 04*18*78 |        | 80/ 64        | 0    | 5/140C     |       | ( 84) | 2428 | PUBLISHED      |

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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY                  | WIND TUNNEL | NO.  | TEST NO. | TESTING |          | HOURS EST/CHG | RUNS | REF.    | MODEL | (ID)  | NO.  | DATAMEN   | STATUS |
|---------------------------|-------------|------|----------|---------|----------|---------------|------|---------|-------|-------|------|-----------|--------|
|                           |             |      |          | SCHED.  | COMPL.   |               |      |         |       |       |      |           |        |
| LERC SPACE POWER FACILITY |             | DH64 | DH64     | 4*14*75 | 06*20*75 | 200/450       | 200  | 2A/089B |       | ( 25) | 2288 | PUBLISHED |        |

# PHASE C/D WIND TUNNEL TESTING PER FACILITY

AUG 01, 1984

| FACILITY             | WIND | TUNNEL | TEST NO. | SCHED.   | TESTING    | HOURS EST/CHG | RUNS | REF.          | MODEL | (ID)  | NO.  | STATUS     |
|----------------------|------|--------|----------|----------|------------|---------------|------|---------------|-------|-------|------|------------|
| MSFC 14-IN TRANSONIC |      |        | 555      | 9*27*72  | - 10*07*72 | 60/ 96        | 206  | ATP           |       | ( 1)  | 2005 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 556      | 10*10*72 | - 10*19*72 | 56/ 84        | 179  | ATP           |       | ( 1)  | 2006 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 545      | 10*19*72 | - 11*28*72 | 150/257       | 361  | ATP           |       | ( 1)  | 2010 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 558      | 11*29*72 | - 12*07*72 | 74/ 75        | 132  | ATP           |       | ( 1)  | 2011 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 554      | 12* 9*72 | - 12*23*72 | 160/144       | 200  | PRR/SRB       |       | ( 1)  | 2012 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 565      | 2*20*73  | - 03*20*73 | 160/164       | 261  | SRB           |       | (449) | 2025 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 559      | 3*20*73  | - 05*27*73 | 50/ 50        | 70   | 2A/O89B       |       | ( 13) | 2158 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 568      | 3*28*73  | - 04*05*73 | 116/116       | 245  | 2A/O89B       |       | ( 13) | 2029 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 566      | 4* 9*73  | - 04*13*73 | 60/ 60        | 104  | 2A/O89B       |       | ( 13) | 2026 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 570      | 4*13*73  | - 04*30*73 | 50/271        | 220  | 2A/O89B       |       | ( 13) | 2028 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 571      | 4*30*73  | - 05*03*73 | 45/ 52        | 94   | 2A/O89B       |       | ( 13) | 2039 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 572      | 5* 3*73  | - 05*08*73 | 45/ 52        | 101  | SRB           |       | (449) | 2051 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 567      | 5* 9*73  | - 05*24*73 | 100/180       | 190  | 2A/O89B       |       | ( 13) | 2027 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 574      | 5*25*73  | - 6*11*73  | 100/166       | 364  | 3/139B.W/CANS |       | ( 34) | 2055 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 573      | 6*21*73  | - 07*09*73 | 32/ 51        | 145  | 2A/O89B       |       | ( 13) | 2072 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 579      | 7*10*73  | - 07*13*73 | 60/ 36        | 64   | 3A/139B       |       | ( 34) | 2063 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 580      | 7*18*73  | - 07*21*73 | 20/ 24        | 40   | 3A/139B       |       | ( 34) | 2063 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 575      | 7*23*73  | - 09*12*73 | 160/305       | 0    | OGIVE CYL     |       | ( 0)  |      | UNASSIGNED |
| MSFC 14-IN TRANSONIC |      |        | 578      | 9*13*73  | - 10*01*73 | 112/128       | 200  | SRB           |       | (449) | 2087 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 582      | 10* 2*73 | - 10*11*73 | 80/ 74        | 126  | 2A/O89B       |       | ( 13) | 2158 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 584      | 10*11*73 | - 10*17*73 | 16/ 28        | 27   | 3A/139B       |       | ( 34) | 2042 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 585      | 10*15*73 | - 10*16*73 | 16/ 22        | 42   | 3A/139B       |       | ( 34) | 2093 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 581      | 10*18*73 | - 11*09*73 | 198/170       | 415  | 4/140A.B      |       | ( 34) | 2095 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 589      | 11*15*73 | - 11*19*73 | 16/ 19        | 33   | 4/140A.B      |       | ( 34) | 2103 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 590      | 11*19*73 | - 12*11*73 | 63/ 63        | 100  | SRB           |       | (449) | 2111 | PUBLISHED  |
| MSFC 14-IN TRANSONIC |      |        | 588      | 12*20*73 | - 01*04*74 | 40/ 36        | 45   | 2A/O89B       |       | ( 13) | 2123 | PUBLISHED  |

|                      |     |         |                     |         |     |                |        |            |
|----------------------|-----|---------|---------------------|---------|-----|----------------|--------|------------|
| MSFC 14-IN TRANSONIC | 586 | MA11F   | 1* 3*74 - 01*18*74  | 80/102  | 0   | OGIVE CYL      | ( O )  | UNASSIGNED |
| MSFC 14-IN TRANSONIC | 591 | FA10    | 1* 7*74 - 01*14*74  | 40/ 56  | 0   | JET PLUME SIM. | ( O )  | UNASSIGNED |
| MSFC 14-IN TRANSONIC | 587 | FA4     | 1*18*74 - 04*15*74  | 40/182  | 0   | TITAN-3C       | (459)  | PUBLISHED  |
| MSFC 14-IN TRANSONIC | 595 | SA26FB  | 1*28*74 - 01*30*74  | 16/ 13  | 50  | SRB            | (449)  | PUBLISHED  |
| MSFC 14-IN TRANSONIC | 583 | TA1F    | 2*19*74 - 03*05*74  | 56/ 64  | 0   | ET             | (459)  | PUBLISHED  |
| MSFC 14-IN TRANSONIC | 597 | FA12    | 3* 6*74 - 03*10*74  | 24/ 24  | 0   | CONE-CYLINDER  | ( O )  | UNASSIGNED |
| MSFC 14-IN TRANSONIC | 593 | FA11    | 2*11*74 - 4*08*74   | 160/176 | 0   | CONE-OGIVE-CYL | ( O )  | UNASSIGNED |
| MSFC 14-IN TRANSONIC | 596 | TA2F    | 4*29*74 - 09*23*74  | 104/104 | 0   | ET             | (460)  | PUBLISHED  |
| MSFC 14-IN TRANSONIC | 594 | IA33    | 5* 9*74 - 07*21*74  | 256/264 | 270 | 5/140C         | ( 74 ) | PUBLISHED  |
| MSFC 14-IN TRANSONIC | 599 | OA108   | 6*24*74 - 07*09*74  | 80/ 80  | 186 | 5/140C         | ( 74 ) | PUBLISHED  |
| MSFC 14-IN TRANSONIC | 607 | OA131   | 9*11*74 - 09*26*74  | 80/ 96  | 109 | 5/140C         | ( 74 ) | PUBLISHED  |
| MSFC 14-IN TRANSONIC | 609 | TA3F    | 9*27*74 - 10*11*74  | 64/ 80  | 0   | ET             | (470)  | PUBLISHED  |
| MSFC 14-IN TRANSONIC | 604 | SA8F    | 10*18*74 - 12*10*74 | 160/250 | 0   | SRB            | (471)  | PUBLISHED  |
| MSFC 14-IN TRANSONIC | 610 | IA71A-2 | 12*11*74 - 12*17*74 | 20/ 17  | 29  | 5/140C         | ( 74 ) | PUBLISHED  |
| MSFC 14-IN TRANSONIC | 610 | IA71A-1 | 12*11*74 - 12*17*74 | 20/ 40  | 40  | 5/140C         | ( 77 ) | PUBLISHED  |
| MSFC 14-IN TRANSONIC | 610 | IA71B-2 | 12*19*74 - 01*09*75 | 16/ 16  | 41  | 5/140C         | ( 74 ) | PUBLISHED  |
| MSFC 14-IN TRANSONIC | 610 | IA71B-1 | 12*19*74 - 01*09*75 | 40/ 64  | 90  | 5/140C         | ( 77 ) | PUBLISHED  |
| MSFC 14-IN TRANSONIC | 600 | FA14    | 1* 9*75 - 07*06*75  | 60/142  | 0   | 5/140C         | ( 74 ) | PUBLISHED  |
| MSFC 14-IN TRANSONIC | 616 | SS14F   | 1*27*75 - 02*13*75  | 104/104 | 0   | SRB            | ( O )  | UNASSIGNED |
| MSFC 14-IN TRANSONIC | 614 | SS20F   | 2*15*75 - 02*21*75  | 40/ 44  | 0   | SRB            | ( O )  | UNASSIGNED |
| MSFC 14-IN TRANSONIC | 611 | SA30F   | 3* 3*75 - 03*13*75  | 80/ 72  | 185 | SRB            | (473)  | PUBLISHED  |
| MSFC 14-IN TRANSONIC | 603 | SA28F-2 | 3*17*75 - 04*11*75  | 40/ 50  | 160 | SRB            | (469)  | PUBLISHED  |
| MSFC 14-IN TRANSONIC | 603 | SA28F-1 | 3*17*75 - 04*11*75  | 80/102  | 200 | SRB            | (468)  | PUBLISHED  |
| MSFC 14-IN TRANSONIC | 623 | SS15F   | 4*12*75 - 04*12*75  | 40/ 90  | 0   | SRB            | ( O )  | UNASSIGNED |
| MSFC 14-IN TRANSONIC | 622 | IA125-2 | 4*25*75 - 05*22*75  | 40/ 30  | 50  | 5/140C(74TS)   | ( 77 ) | PUBLISHED  |
| MSFC 14-IN TRANSONIC | 622 | IA125-1 | 4*25*75 - 05*22*75  | 60/ 93  | 137 | 5/140C         | ( 74 ) | PUBLISHED  |
| MSFC 14-IN TRANSONIC | 626 | SS19F   | 5*27*75 - 06*27*75  | 180/192 | 0   | SRB            | ( O )  | UNASSIGNED |
| MSFC 14-IN TRANSONIC | 628 | FA22A   | 7* 9*75 - 07*17*75  | 12/ 56  | 0   | NOZZLE CALIB.  | ( O )  | UNASSIGNED |
| MSFC 14-IN TRANSONIC | 631 | FA20A   | 7*18*75 - 07*22*75  | 24/ 24  | 0   | NOZZLE CALIB.  | ( O )  | UNASSIGNED |
| MSFC 14-IN TRANSONIC | 612 | FA13    | 8* 7*75 - 09*11*75  | 160/200 | 0   | CONE CYLINDER  | ( O )  | UNASSIGNED |
| MSFC 14-IN TRANSONIC | 636 | SS16F   | 9*22*75 - 10*20*75  | 120/158 | 0   | SRB            | ( O )  | UNASSIGNED |

|                      |     |        |                     |         |     |                |       |                 |
|----------------------|-----|--------|---------------------|---------|-----|----------------|-------|-----------------|
| MSFC 14-IN TRANSONIC | 633 | FA21A  | 10*23*75 - 10*31*75 | 24/ 44  | 0   | NOZZLE CALIB.  | ( 0)  | UNASSIGNED      |
| MSFC 14-IN TRANSONIC | 627 | FA23A  | 11* 3*75 - 11*06*75 | 60/ 28  | 0   | NOZZLE CALIB.  | ( 0)  | UNASSIGNED      |
| MSFC 14-IN TRANSONIC | 638 | SS18F  | 11*14*75 - 12*08*75 | 80/131  | 0   | SRB            | ( 0)  | UNASSIGNED      |
| MSFC 14-IN TRANSONIC | 620 | SA14FA | 12*23*75 - 03*19*75 | 140/144 | 200 | SRB            | (449) | 2325 PUBLISHED  |
| MSFC 14-IN TRANSONIC | 640 | SA14FB | 1* 6*76 - 03*11*76  | 48/549  | 100 | SRB            | (486) | 2310 PUBLISHED  |
| MSFC 14-IN TRANSONIC | 641 | IA140A | 6* 1*76 - 08*03*76  | 64/222  | 230 | 5/140C         | ( 74) | 2335 PUBLISHED  |
| MSFC 14-IN TRANSONIC | 643 | TA6F   | 8* 4*76 - 08*20*76  | 40/ 80  | 0   | ET INST.       | ( 0)  | UNASSIGNED      |
| MSFC 14-IN TRANSONIC | 645 | SA21F  | 9*16*76 - 10*06*76  | 56/120  | 200 | SRB            | (486) | 2345 PUBLISHED  |
| MSFC 14-IN TRANSONIC | 646 | IA140B | 10* 1*76 - 01*28*77 | 80/279  | 44  | 5/140C         | ( 74) | 2335 PUBLISHED  |
| MSFC 14-IN TRANSONIC | 632 | FA15   | 1*31*77 - 05*01*77  | 104/320 | 0   | OGIVE CYLINDER | ( 0)  | UNASSIGNED      |
| MSFC 14-IN TRANSONIC | 630 | FA19   | 5* 2*77 - 07*05*77  | 104/278 | 0   | ACOUSTICS      | ( 0)  | UNASSIGNED      |
| MSFC 14-IN TRANSONIC | 648 | SS30F  | 7*20*77 - 09*03*77  | 160/240 | 0   | SRB            | ( 0)  | UNASSIGNED      |
| MSFC 14-IN TRANSONIC | 649 | IA181  | 12*15*77 - 02*03*78 | 120/120 | 111 | 5/140C         | ( 74) | 2406 PUBLISHED  |
| MSFC 14-IN TRANSONIC | 652 | FA25   | 4*15*78 - 08*01*78  | 200/294 | 0   | 5/140C         | ( 74) | 2437 PUBLISHED  |
| MSFC 14-IN TRANSONIC | 653 | FA26   | 5* 1*78 - 06*01*78  | 80/ 80  | 0   | 5/140C         | ( 74) | UNASSIGNED      |
| MSFC 14-IN TRANSONIC | 655 | FA27   | 3*14*79 - 05*16*79  | 150/160 | 0   | 5/140C         | ( 74) | 2460 IN PROCESS |
| MSFC 14-IN TRANSONIC | 657 | FA29   | 4* 1*79 - 05*00*79  | 400/ 0  | 0   | 5/140C         | ( 74) | UNASSIGNED      |
| MSFC 14-IN TRANSONIC | 656 | FA28   | 8* 1*79 - 09*01*79  | 200/ 0  | 0   | 5/140C         | ( 74) | 2474 PUBLISHED  |



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## PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY                    | WIND | TUNNEL | TEST NO. | TEST NO. | SCHED.   | TESTING  | HOURS EST/CHG | RUNS | REF.         | MODEL | (ID)  | NO.  | DATAMAN STATUS |
|-----------------------------|------|--------|----------|----------|----------|----------|---------------|------|--------------|-------|-------|------|----------------|
| MSFC 32-IN LUDWIG (HIGH RN) |      |        | 031      | MA12F    | 10* 1*75 | 02*04*74 | 80/328        | 0    | PGIVE CYL    |       | ( 0)  |      | UNASSIGNED     |
| MSFC 32-IN LUDWIG (HIGH RN) |      |        | 034      | SA13F    | 9*30*74  | 06*17*75 | 100/100       | 0    | SRB          |       | (461) | 2277 | PUBLISHED      |
| MSFC 32-IN LUDWIG (HIGH RN) |      |        | 038      | FA21B    | 2*17*76  | 04*21*76 | 0/368         | 0    | ROCKET MOTOR |       | ( 0)  |      | UNASSIGNED     |
| MSFC 32-IN LUDWIG (HIGH RN) |      |        | 039      | SA31F    | 4*27*76  | 02*01*77 | 80/ 80        | 0    | SRB          |       | (487) | 2369 | PUBLISHED      |
| MSFC 32-IN LUDWIG (HIGH RN) |      |        | 041      | LA97A    | 4*18*77  | 08*15*77 | 80/400        | 116  | L.E. VORTEX  |       | ( 0)  |      | UNASSIGNED     |
| MSFC 32-IN LUDWIG (HIGH RN) |      |        | 041      | LA97B    | 10* 1*78 | 06*01*79 | 80/400        | 0    | L.E. VORTEX  |       | ( 0)  |      | UNASSIGNED     |

PHASE C/D WIND TUNNEL TESTING PER FACILITY

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| FACILITY             | WIND | TUNNEL | ND. | TEST NO. | SCHED.              | TESTING | HOURS EST/CHG | RUNS | REF.       | MODEL | (ID)  | NO. | DATAMAN | STATUS     |
|----------------------|------|--------|-----|----------|---------------------|---------|---------------|------|------------|-------|-------|-----|---------|------------|
| JPL 20-IN SUPERSONIC |      |        |     | FS8A     | 11* 1*73 - 11*08*73 |         | 40/ 32        | 0    | PRR ASCENT |       | ( 0)  |     |         | UNASSIGNED |
| JPL 20-IN SUPERSONIC |      |        |     | FS8B     | 8* 1*74 - 08*07*74  |         | 32/ 32        | 0    | PRR ASCENT |       | ( 0)  |     |         | UNASSIGNED |
| JPL 20-IN SUPERSONIC |      |        | 702 | MA21     | 8*15*75 - 09*04*75  |         | 80/ 92        | 50   | 5/140C     |       | ( 34) |     |         | UNASSIGNED |

**APPENDIX A**

**TABLE A5 - WIND TUNNEL TESTING BY FACILITY - OTHER GOVERNMENT COMPLEXES**

PHASE C/D WIND TUNNEL TESTING PER FACILITY

AUG 01, 1984

| FACILITY            | WIND | TUNNEL | TEST NO. | SCHED. | TESTING COMPL.  | HOURS EST/CHG | RUNS | REF. | MODEL | (ID)  | NO. | DATAMAN | STATUS     |
|---------------------|------|--------|----------|--------|-----------------|---------------|------|------|-------|-------|-----|---------|------------|
| AEDC 1-FT TRANSONIC |      |        | 0547     | 11*    | 1-79 - 12*20*79 | 160/160       | 0    | TPS  |       | (110) |     |         | UNASSIGNED |

PHASE C/D WIND TUNNEL TESTING PER FACILITY

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| FACILITY             | WIND | TUNNEL | TEST NO. | SCHED. | TESTING             | HOURS   | RUNS | REF.        | MODEL | (ID)  | NO.  | STATUS     |
|----------------------|------|--------|----------|--------|---------------------|---------|------|-------------|-------|-------|------|------------|
| AEDC 16-FT TRANSONIC |      |        | 470      | IA105A | 9* 2*77 - 11*20*77  | 290/281 | 885  | 5/140C      |       | ( 47) | 2398 | PUBLISHED  |
| AEDC 16-FT TRANSONIC |      |        | 470      | IA156A | 10*28*77 - 11*10*77 | 96/124  | 575  | VEH 102     |       | ( 89) | 2403 | PUBLISHED  |
| AEDC 16-FT TRANSONIC |      |        | 431      | OA232  | 2*17*78 - 03*01*78  | 80/ 80  | 281  | ADS PROBES  |       | ( 99) | 2414 | PUBLISHED  |
| AEDC 16-FT TRANSONIC |      |        | 507      | OA129  | 7* 7*78 - 07*15*78  | 40/ 64  | 477  | VEH102      |       | ( 47) | 2434 | PUBLISHED  |
| AEDC 16-FT TRANSONIC |      |        | 517      | IA182  | 9*19*78 - 09*20*78  | 12/ 24  | 87   | 5/140C      |       | ( 47) | 2439 | PUBLISHED  |
| AEDC 16-FT TRANSONIC |      |        | 519      | IA183  | 11*15*78 - 11*16*78 | 12/ 12  | 40   | VEH 102     |       | ( 89) | 2444 | PUBLISHED  |
| AEDC 16-FT TRANSONIC |      |        | 505      | IA132  | 11*27*78 - 12*14*78 | 96/ 96  | 0    | ET FORETANK |       | ( 68) | 2449 | PUBLISHED  |
| AEDC 16-FT TRANSONIC |      |        | 551      | OS46A  | 3* 4*80 - 03*05*80  | 8/ 8    | 0    | TPS         |       | (109) | 2505 | PUBLISHED  |
| AEDC 16-FT TRANSONIC |      |        | 551      | OS46B  | 3* 6*80 - 03*08*80  | 24/ 24  | 0    | TPS         |       | (108) | 2505 | PUBLISHED  |
| AEDC 16-FT TRANSONIC |      |        | 551      | OS46C  | 4*17*80 - 04*18*80  | 8/ 8    | 0    | TPS         |       | (109) | 2505 | PUBLISHED  |
| AEDC 16-FT TRANSONIC |      |        | 574      | OA253  | 7* 1*80 - 07*08*80  | 80/ 80  | 139  | 5/140C      |       | ( 84) | 2486 | PUBLISHED  |
| AEDC 16-FT TRANSONIC |      |        | 551      | OS46D  | 8* 0*80 - 09*00*80  | 8/ 8    | 0    | TPS         |       | (108) | 2505 | PUBLISHED  |
| AEDC 16-FT TRANSONIC |      |        | 551      | OS46E  | 9*15*80 - 10*20*80  | 8/ 8    | 0    | TPS         |       | (108) | 2505 | PUBLISHED  |
| AEDC 16-FT TRANSONIC |      |        | 551      | OS46F  | 10* 1*80 - 10*02*80 | 8/ 8    | 0    | TPS         |       | (108) | 2505 | PUBLISHED  |
| AEDC 16-FT TRANSONIC |      |        | 556      | OS49   | 1*28*81 - 02*04*81  | 40/ 44  | 0    | TPS         |       | (111) | 2483 | PUBLISHED  |
| AEDC 16-FT TRANSONIC |      |        | 594      | MA34   | 3*12*81 - 03*20*81  | 40/ 60  | 0    | ADS PROBES  |       | ( 99) | 2497 | IN PROCESS |
| AEDC 16-FT TRANSONIC |      |        | 608      | OS56   | 8*26*81 - 08*27*81  | 8/ 8    | 0    | TPS TILE    |       | (108) | 2489 | PUBLISHED  |
| AEDC 16-FT TRANSONIC |      |        | 551      | OS46G  | 12*10*81 - 12*11*81 | 8/ 17   | 0    | TPS         |       | (108) | 2505 | PUBLISHED  |

PHASE C/D WIND TUNNEL TESTING PER FACILITY

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| FACILITY            | WIND | TUNNEL | NO. | TEST NO. | SCHED.   | TESTING    | COMPL. | HOURS EST/CHG | RUNS | REF.           | MODEL | (ID) | NO.  | DATAMAN | STATUS     |
|---------------------|------|--------|-----|----------|----------|------------|--------|---------------|------|----------------|-------|------|------|---------|------------|
| AEDC 4-FT TRANSONIC |      |        | 390 | FA22B    | 7*21*75  | - 07*25*75 | 30/ 35 | 0             | 0    | OGIVE CYLINDER | ( 0)  |      |      |         | UNASSIGNED |
| AEDC 4-FT TRANSONIC |      |        | 409 | FA20B    | 10* 3*75 | - 10*13*75 | 60/ 52 | 0             | 0    | TRIPLE BODY    | ( 0)  |      |      |         | UNASSIGNED |
| AEDC 4-FT TRANSONIC |      |        | 445 | SA16F    | 5* 5*76  | - 05*06*76 | 8/ 8   | 9             | 9    | SRB            | (486) |      | 2334 |         | PUBLISHED  |

# PHASE C/D WIND TUNNEL TESTING PER FACILITY

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| FACILITY            | WIND | TUNNEL | TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.          | MODEL | (ID)  | NO.  | STATUS     |
|---------------------|------|--------|----------|---------------------|----------------|---------------|------|---------------|-------|-------|------|------------|
| AEDC A / SUPERSONIC |      | 323    | IA13     | 7* 5*73 - 07*17*73  |                | 40/ 39        | 762  | 3/139B        |       | ( 32) | 2062 | PUBLISHED  |
| AEDC A / SUPERSONIC |      | 422    | IA57     | 11*20*73 - 11*20*73 |                | 10/ 9         | 10   | 3/139,089B    |       | ( 32) | 2112 | PUBLISHED  |
| AEDC A / SUPERSONIC |      | 422    | IA61A    | 1*30*74 - 01*31*74  |                | 10/ 10        | 88   | 3/139,089B    |       | ( 32) | 2143 | PUBLISHED  |
| AEDC A / SUPERSONIC |      | 21AA   | IA61B    | 2*26*74 - 02*26*74  |                | 8/ 8          | 9    | 3/139,089B    |       | ( 52) | 2226 | PUBLISHED  |
| AEDC A / SUPERSONIC |      | 60A    | IA87     | 7*18*74 - 07*20*74  |                | 24/ 23        | 90   | 3/139B        |       | ( 52) | 2192 | PUBLISHED  |
| AEDC A / SUPERSONIC |      | 71A    | OA115A   | 7*29*74 - 07*31*74  |                | 24/ 28        | 82   | 4/140A,B(MOD) |       | ( 49) | 2198 | PUBLISHED  |
| AEDC A / SUPERSONIC |      | A3A    | IA111    | 3*21*75 - 03*28*75  |                | 36/ 33        | ***  | 3/139B        |       | ( 52) | 2242 | PUBLISHED  |
| AEDC A / SUPERSONIC |      | 4A     | IA41A    | 3*31*75 - 5*21*75   |                | 48/ 57        | 318  | 5/140C        |       | ( 60) | 2240 | PUBLISHED  |
| AEDC A / SUPERSONIC |      | F5A    | SS17F    | 4* 4*75 - 04*05*75  |                | 12/ 12        | 0    | SRB           |       | ( 0)  |      | UNASSIGNED |
| AEDC A / SUPERSONIC |      | E1A    | FH13     | 9*22*75 - 09*25*75  |                | 24/ 40        | 0    | ET/SPIKE      |       | ( 0)  | 2276 | PUBLISHED  |
| AEDC A / SUPERSONIC |      | 4A     | IA41B    | 12*11*75 - 01*09*76 |                | 78/ 80        | 300  | 5/140C        |       | ( 60) | 2295 | PUBLISHED  |
| AEDC A / SUPERSONIC |      | EOA    | SH15F    | 12*29*75 - 02*20*76 |                | 12/100        | 0    | SRB           |       | ( 0)  |      | UNASSIGNED |
| AEDC A / SUPERSONIC |      | F9A    | SS22F    | 1* 1*76 - 01*15*76  |                | 64/ 45        | 0    | SRB           |       | ( 0)  |      | UNASSIGNED |
| AEDC A / SUPERSONIC |      | J3A    | IA47     | 3* 8*76 - 03*19*76  |                | 40/ 31        | 178  | 5/140C        |       | ( 60) | 2312 | PUBLISHED  |
| AEDC A / SUPERSONIC |      | E6A    | SH16F    | 3*10*76 - 04*19*76  |                | 12/ 8         | 0    | SRB           |       | ( 0)  |      | UNASSIGNED |
| AEDC A / SUPERSONIC |      | 425    | IA40     | 6*23*76 - 06*29*76  |                | 26/ 41        | 346  | 5/140C        |       | ( 75) | 2293 | PUBLISHED  |
| AEDC A / SUPERSONIC |      | K1A    | IA142    | 8*11*76 - 08*18*76  |                | 78/ 64        | ***  | 5/140C        |       | ( 75) | 2346 | PUBLISHED  |
| AEDC A / SUPERSONIC |      | K8A    | MA28     | 9*29*76 - 09*29*76  |                | 7/ 1          | 0    | 2A/089B       |       | ( 6)  |      | UNASSIGNED |
| AEDC A / SUPERSONIC |      | P8A    | IA143    | 11* 8*76 - 11*13*76 |                | 65/ 58        | ***  | 5/140C        |       | ( 75) | 2354 | PUBLISHED  |
| AEDC A / SUPERSONIC |      | K2A    | I-72     | 1* 3*77 - 01*10*77  |                | 60/ 56        | 0    | 5/140C        |       | ( 60) | 2372 | PUBLISHED  |
| AEDC A / SUPERSONIC |      | P5A    | OA209    | 3*21*78 - 03*30*78  |                | 65/ 69        | 324  | MEH. 102      |       | (105) | 2415 | PUBLISHED  |
| AEDC A / SUPERSONIC |      | W5     | IH85     | 4*19*78 - 04*26*78  |                | 60/ 65        | 337  | 5/140C        |       | ( 60) | 2431 | PUBLISHED  |
| AEDC A / SUPERSONIC |      | 420    | FH15     | 5* 1*78 - 05*05*78  |                | 52/ 52        | 0    | ET/SPIKE      |       | ( 0)  | 2422 | PUBLISHED  |
| AEDC A / SUPERSONIC |      | B67    | IH102-3  | 5* 1*79 - 06*01*79  |                | 10/ 10        | 0    | 5/140C        |       | ( 83) | 2464 | PUBLISHED  |
| AEDC A / SUPERSONIC |      | B67    | IH102-2  | 5* 1*79 - 06*01*79  |                | 12/ 12        | 0    | 5/140C        |       | ( 56) | 2464 | PUBLISHED  |
| AEDC A / SUPERSONIC |      | B67    | IH102-1  | 5* 1*79 - 06*01*79  |                | 26/ 26        | 0    | 5/140C        |       | ( 60) | 2464 | PUBLISHED  |

UNASSIGNED

( 72 )

VEH 102

0

72/720

2\*26\*82 - 04\*31\*82

IA193

A1G

AEDC A / SUPERSONIC



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## PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY            | WIND | TUNNEL | TEST NO. | SCHED. | TESTING COMPL.      | HOURS EST/CHG | RUNS | REF.          | MODEL | (ID)  | NO.  | STATUS    |
|---------------------|------|--------|----------|--------|---------------------|---------------|------|---------------|-------|-------|------|-----------|
| AEDC B / HYPERSONIC |      |        | 288      | OH3A   | 6*28*73 - 06*30*73  | 40/ 16        | 36   | 3/139B        |       | ( 21) | 2100 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 289      | OH3B   | 7* 9*73 - 07*11*73  | 40/ 23        | 147  | 3/139B        |       | ( 21) | 2100 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 353      | OH9    | 9*13*73 - 09*21*73  | 16/ 16        | 61   | 3/139         |       | ( 29) | 2251 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 352      | OH4C   | 9*26*73 - 09*26*73  | 8/ 8          | 60   | 3/139B        |       | ( 21) | 2225 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 352      | OH4B   | 9*29*73 - 10*04*73  | 48/ 38        | 224  | 3/139         |       | ( 22) | 2099 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 352      | OH4A   | 11*12*73 - 12*05*73 | 20/ 20        | 57   | 3/139         |       | ( 29) | 2154 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 474      | OA77   | 11*27*73 - 12*01*73 | 40/ 32        | 124  | 4/140A,B      |       | ( 49) | 2134 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 422      | IA17A  | 3* 6*74 - 03*15*74  | 40/ 45        | 997  | 3/139B        |       | ( 52) | 2156 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 422      | IA17B  | 3*18*74 - 03*19*74  | 8/ 8          | 13   | 3/139B        |       | ( 52) | 2230 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 526      | OH50A  | 3*29*74 - 04*11*74  | 8/ 16         | 66   | 5/140C        |       | ( 82) | 2285 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 525      | OH49A  | 4* 3*74 - 04*06*74  | 216/ 17       | 87   | 3/139B        |       | ( 22) | 2355 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 524      | OH52   | 5* 6*74 - 05*15*74  | 16/ 16        | 32   | 3/139B        |       | ( 29) | 2330 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 550      | LA42A  | 6*25*74 - 06*25*74  | 16/ 8         | 3    | 089B          |       | ( 0)  | 2132 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 57A      | OH49B  | 7* 2*74 - 07*12*74  | 72/ 67        | 454  | 4/140B        |       | ( 22) | 2222 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 58A      | OH50B  | 7*12*74 - 07*17*74  | 36/ 27        | 220  | 5/140C        |       | ( 83) | 2358 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 48A      | LA42B  | 7*27*74 - 07*27*74  | 16/ 12        | 7    | 089B          |       | ( 0)  | 2132 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 71A      | OA79   | 8* 1*74 - 08*03*74  | 24/ 23        | 79   | 4/140A,B(MOD) |       | ( 49) | 2196 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 83A      | OH25A  | 8*21*74 - 08*22*74  | 12/ 12        | 82   | 3/139B        |       | ( 21) | 2252 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 82A      | OH54A  | 10* 4*74 - 10* 8*74 | 36/ 32        | 117  | 5/140C        |       | ( 82) | 2301 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 74A      | OH39A  | 11*21*74 - 11*28*74 | 84/ 59        | 622  | 5/140C        |       | ( 60) | 2241 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 74A      | OH39B  | 1* 8*75 - 01*09*75  | 12/ 13        | 80   | 5/140C        |       | ( 60) | 2241 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 83A      | OH25B  | 1*30*75 - 02*03*75  | 24/ 23        | 153  | 5/140C        |       | ( 56) | 2366 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 87A      | OH60   | 5*12*75 - 05*12*75  | 12/ 12        | 139  | 5/140C        |       | ( 83) | 2356 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 87A      | OH74   | 6* 3*75 - 06*12*75  | 12/ 12        | 0    | 5/140C        |       | ( 56) | 2263 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | 82A      | OH54B  | 7*21*75 - 07*25*75  | 48/ 52        | 124  | 5/140C        |       | ( 82) | 2342 | PUBLISHED |
| AEDC B / HYPERSONIC |      |        | C4A      | IA114  | 8*18*75 - 08*22*75  | 42/ 56        | 100  | 5/140C        |       | ( 52) | 2272 | PUBLISHED |

|                     |     |         |                     |        |     |               |       |      |            |
|---------------------|-----|---------|---------------------|--------|-----|---------------|-------|------|------------|
| AEDC B / HYPERSONIC | 82A | OH54C   | 8*26*75 - 09*02*75  | 48/ 48 | 120 | 5/140C        | ( 82) | 2342 | PUBLISHED  |
| AEDC B / HYPERSONIC | E3A | OH75    | 9* 2*75 - 09*03*75  | 14/ 13 | 44  | 5/140C        | ( 82) | 2303 | PUBLISHED  |
| AEDC B / HYPERSONIC | D5A | MH2     | 9* 3*75 - 01*23*76  | 16/ 11 | 22  | 4/140B        | ( 29) |      | UNASSIGNED |
| AEDC B / HYPERSONIC | E9A | OH69    | 11*14*75 - 12*11*75 | 84/ 87 | 246 | 5/140C        | ( 82) | 2321 | PUBLISHED  |
| AEDC B / HYPERSONIC | D8A | OA169   | 3*26*76 - 04*09*76  | 12/ 43 | 200 | 5/140C        | ( 70) | 2320 | PUBLISHED  |
| AEDC B / HYPERSONIC | 59A | IA22    | 5* 3*76 - 05*08*76  | 52/ 49 | 750 | 5/140C        | ( 70) | 2327 | PUBLISHED  |
| AEDC B / HYPERSONIC | J7A | OH98A   | 6*17*76 - 06*23*76  | 43/ 44 | 284 | 5/140C        | ( 60) | 2340 | PUBLISHED  |
| AEDC B / HYPERSONIC | J74 | OH98B   | 7*26*76 - 07*26*76  | 20/ 13 | 98  | 5/140C        | ( 60) | 2340 | PUBLISHED  |
| AEDC B / HYPERSONIC | K3A | OH57A   | 10* 6*76 - 20*06*76 | 13/ 11 | 40  | 140C          | ( 92) | 2367 | PUBLISHED  |
| AEDC B / HYPERSONIC | K7A | MA29    | 10*14*76 - 10*14*46 | 7/ 7   | 0   | SEMISPAN      | ( 0)  | 2451 | PUBLISHED  |
| AEDC B / HYPERSONIC | K3A | OH57B   | 12* 4*76 - 12*05*76 | 26/ 34 | 14  | 140C          | ( 92) | 2367 | PUBLISHED  |
| AEDC B / HYPERSONIC | R4A | OH84A-2 | 4*20*77 - 04*21*77  | 5/ 9   | 16  | 5/140C        | ( 83) | 2388 | PUBLISHED  |
| AEDC B / HYPERSONIC | R4A | OH84A-1 | 4*20*77 - 04*21*77  | 20/ 16 | 81  | 5/140C        | ( 60) | 2388 | PUBLISHED  |
| AEDC B / HYPERSONIC | TOA | IA148   | 4*27*77 - 05*03*77  | 52/ 52 | 272 | 5/140C        | ( 70) | 2384 | PUBLISHED  |
| AEDC B / HYPERSONIC | R3A | OH56    | 12* 6*77 - 12*10*77 | 48/ 36 | 255 | WING TIP SEAL | ( 91) | 2410 | PUBLISHED  |
| AEDC B / HYPERSONIC | V2C | OH103A  | 2*20*78 - 02*21*78  | 12/ 8  | 72  | VEH. 5 F'BODY | ( 83) | 2420 | PUBLISHED  |
| AEDC B / HYPERSONIC | P4A | OH90    | 3* 2*78 - 03*11*78  | 48/ 64 | 162 | ELEV/ELEV     | ( 94) | 2451 | PUBLISHED  |
| AEDC B / HYPERSONIC | P5A | OA208   | 3*30*78 - 04*06*78  | 52/ 47 | 183 | VEH. 102      | (105) | 2416 | PUBLISHED  |
| AEDC B / HYPERSONIC | B65 | OH102A  | 10*25*78 - 11*29*78 | 8/ 13  | 0   | 5/140C        | ( 56) | 2455 | PUBLISHED  |
| AEDC B / HYPERSONIC | B67 | OH84B   | 5* 0*79 - 06*00*79  | 72/ 72 | 0   | 5/140C        | ( 60) | 2464 | PUBLISHED  |
| AEDC B / HYPERSONIC | B67 | OH105A  | 5*15*79 - 06*20*79  | 24/ 24 | 0   | 5/140C        | ( 60) | 2464 | PUBLISHED  |
| AEDC B / HYPERSONIC | G9  | OH109   | 10*27*80 - 11*24*80 | 48/ 40 | 0   | 5/140C        | ( 56) | 2490 | PUBLISHED  |
| AEDC B / HYPERSONIC | BHQ | OA258   | 11*25*80 - 01*06*81 | 48/128 | 541 | VEH 102       | (106) | 2491 | PUBLISHED  |
| AEDC B / HYPERSONIC | B17 | OH107   | 1* 7*81 - 01*08*81  | 12/ 12 | 0   | ELEV/ELEV     | ( 94) | 2492 | PUBLISHED  |
| AEDC B / HYPERSONIC | 14  | OA259   | 2*16*81 - 02*20*81  | 16/ 40 | 137 | VEH 102       | ( 72) | 2493 | PUBLISHED  |
| AEDC B / HYPERSONIC | 1C  | OH111   | 9*24*81 - 09*30*81  | 32/ 32 | 0   | 5/140C        | ( 60) | 2496 | PUBLISHED  |

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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY | WIND       | TUNNEL | NO. | TEST NO. | SCHED.   | TESTING    | COMPL. | HOURS EST/CHG | RUNS     | REF. | MODEL | (ID)  | NO.  | DATAWAN   | STATUS |
|----------|------------|--------|-----|----------|----------|------------|--------|---------------|----------|------|-------|-------|------|-----------|--------|
| AEDC C / | HYPersonic |        | 474 | 0A78     | 12* 3*73 | - 12*04*73 | 20/ 16 | 56            | 4/140A.B |      |       | ( 49) | 2134 | PUBLISHED |        |

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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY | WIND       | TUNNEL | TEST NO. | SCHED. | TESTING            | HOURS EST/CHG | RUNS | REF.   | MODEL | (ID)  | NO.  | DATAMAN   | STATUS |
|----------|------------|--------|----------|--------|--------------------|---------------|------|--------|-------|-------|------|-----------|--------|
| AEDC D / | HYPersonic |        | V2C      | 0H103B | 4*27*78 - 04*28*78 | 24/ 12        | 53   | 5/140C |       | ( 60) | 2427 | PUBLISHED |        |

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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY                 | WIND | TUNNEL | NO.  | TEST NO. | SCHED.  | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.     | MODEL | (ID)  | NO.  | DATAMAN   | STATUS |
|--------------------------|------|--------|------|----------|---------|----------------|---------------|------|----------|-------|-------|------|-----------|--------|
| NSWC HYPERSONIC LAB (#9) |      |        | 1310 | 0A171    | 6* 5*78 | - 06*22*78     | 180/180       | 35   | VEH. 102 |       | (105) | 2433 | PUBLISHED |        |

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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY                     | WIND | TUNNEL | NO.  | TEST<br>NO. | SCHED.   | TESTING<br>COMPL. | HOURS<br>EST/CHG | RUNS | REF. | MODEL | (ID)  | NO.  | DATAMAN | STATUS     |
|------------------------------|------|--------|------|-------------|----------|-------------------|------------------|------|------|-------|-------|------|---------|------------|
| NSWC HYPERVELOCITY LAB (#8A) |      |        | 1275 | LA79        | 11*28*75 | - 12*11*75        | 64/ 64           | 8    | 140C |       | ( O ) | 2291 |         | IN PROCESS |

APPENDIX A -

TABLE A6 - WIND TUNNEL TESTING BY FACILITY - PRIVATE FACILITY COMPLEXES

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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY              | WIND | TUNNEL | NO. | TEST NO. | SCHED.   | TESTING    | COMPL. | HOURS EST/CHG | RUNS | REF.          | MODEL | (ID)  | NO.  | DATAMAN STATUS |
|-----------------------|------|--------|-----|----------|----------|------------|--------|---------------|------|---------------|-------|-------|------|----------------|
| CALSPAN 32-IN LUDWIEG |      |        | 181 | IH5      | 1*21*74  | - 07*22*74 |        | 120/105       | 106  | 2A/089B       |       | ( 19) | 2308 | PUBLISHED      |
| CALSPAN 32-IN LUDWIEG |      |        | 033 | SA29F    | 8* 8*74  | - 09*18*74 |        | 120/120       | 0    | SRB FORE BODY |       | (467) | 2207 | PUBLISHED      |
| CALSPAN 32-IN LUDWIEG |      |        | 100 | IH75     | 10* 3*77 | - 12*12*77 |        | 200/320       | 41   | 5/140C        |       | ( 19) | 2453 | PUBLISHED      |



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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY               | WIND | TUNNEL | NO. | TEST NO. | SCHED.             | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.             | MODEL | (ID)  | NO.  | DATAMAN STATUS |
|------------------------|------|--------|-----|----------|--------------------|----------------|---------------|------|------------------|-------|-------|------|----------------|
| CALSPAN 8-FT TRANSONIC |      |        | 053 | IA36     | 6*15*73 - 06*22*73 |                | 60/ 80        | 120  | 2A/089(MOD)      |       | ( 14) | 2064 | PUBLISHED      |
| CALSPAN 8-FT TRANSONIC |      |        | 103 | LA70     | 7*28*75 - 08*03*75 |                | 38/ 60        | 299  | 140C/REPAITE ELE |       | ( 44) | 2269 | PUBLISHED      |
| CALSPAN 8-FT TRANSONIC |      |        | 111 | LA82     | 8* 8*76 - 08*19*76 |                | 30/ 32        | 66   | SUPP-JRT TARES   |       | (200) | 2374 | PUBLISHED      |
| CALSPAN 8-FT TRANSONIC |      |        | 113 | LA103    | 3*25*77 - 04*04*77 |                | 80/ 76        | 88   | SUPPORT TARES    |       | ( 0)  | 2374 | PUBLISHED      |

# PHASE C/D WIND TUNNEL TESTING PER FACILITY

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| FACILITY | WIND       | TUNNEL | NO. | TEST NO. | SCHED.   | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.     | MODEL | (ID)  | NO.  | STATUS     |
|----------|------------|--------|-----|----------|----------|----------------|---------------|------|----------|-------|-------|------|------------|
| CALSPAN  | HYPERSONIC | SHOCK  | 100 | IH21     | 10*29*73 | - 12*13*73     | 80/141        | 31   | 3/139    |       | ( 37) | 2164 | PUBLISHED  |
| CALSPAN  | HYPERSONIC | SHOCK  | 100 | OH12     | 10*29*73 | - 12*13*73     | 80/145        | 32   | 3/139    |       | ( 37) | 2164 | PUBLISHED  |
| CALSPAN  | HYPERSONIC | SHOCK  | 184 | DA113    | 8*10*74  | - 10*04*74     | 24/336        | 108  | 4/140A,B |       | ( 51) | 2234 | PUBLISHED  |
| CALSPAN  | HYPERSONIC | SHOCK  | 120 | IH33A    | 10*14*74 | - 10*18*74     | 32/ 32        | 17   | 5/140C   |       | ( 37) | 2249 | PUBLISHED  |
| CALSPAN  | HYPERSONIC | SHOCK  | 737 | DA93     | 11*18*74 | - 11*23*74     | 80/152        |      | 4/140A,B |       | ( 51) | 2238 | PUBLISHED  |
| CALSPAN  | HYPERSONIC | SHOCK  | 131 | IH33B    | 12* 5*74 | - 12*19*74     | 48/ 80        | 24   | 5/140C   |       | ( 37) | 2249 | PUBLISHED  |
| CALSPAN  | HYPERSONIC | SHOCK  | 000 | TH2F     | 6* 1*75  | - 06*05*75     | 80/ 32        | 0    | ET       |       | ( 0)  |      | UNASSIGNED |
| CALSPAN  | HYPERSONIC | SHOCK  | 189 | IH43     | 12*17*75 | - 02*23*76     | 120/250       | 60   | 5/140C   |       | ( 59) | 2319 | PUBLISHED  |
| CALSPAN  | HYPERSONIC | SHOCK  | 131 | OH66     | 8*30*76  | - 10*17*76     | 120/120       | 30   | 5/140C   |       | ( 66) | 2359 | PUBLISHED  |

PHASE C/D WIND TUNNEL TESTING PER FACILITY

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| FACILITY            | WIND | TUNNEL | TEST NO. | SCHED. | TESTING            | HOURS EST/CHG | RUNS | REF.         | MODEL | (ID)  | NO. | DATAMAN | STATUS     |
|---------------------|------|--------|----------|--------|--------------------|---------------|------|--------------|-------|-------|-----|---------|------------|
| GRUMMAN - LOW SPEED |      |        | 324      | MA 18  | 6* 5*74 - 06*22*74 | 200/200       | 254  | GULFSTREAM 2 |       | ( 0 ) |     |         | UNASSIGNED |

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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY      | WIND        | TUNNEL | NO. | TEST NO. | SCHED.   | TESTING    | COMPL. | HOURS EST/CHG | RUNS | REF.      | MODEL | (ID) | NO. | DATAMAN | STATUS     |
|---------------|-------------|--------|-----|----------|----------|------------|--------|---------------|------|-----------|-------|------|-----|---------|------------|
| LOCKHEED (CA) | - LOW SPEED |        | 363 | MA16     | 10* 3*73 | - 10*12*73 |        | 40/ 56        | 106  | 089B/C-5A |       | ( 2) |     |         | UNASSIGNED |
| LOCKHEED (CA) | - LOW SPEED |        | 365 | CA103    | 11*26*73 | - 11*28*73 |        | 24/ 24        | 45   | 089B/C-5A |       | ( 2) |     |         | UNASSIGNED |

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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY               | WIND | TUNNEL | NO. | TEST NO. | SCHED.   | TESTING    | COMPL.  | HOURS EST/CHG | RUNS      | REF. | MODEL | (ID) | NO. | DATAMAN | STATUS     |
|------------------------|------|--------|-----|----------|----------|------------|---------|---------------|-----------|------|-------|------|-----|---------|------------|
| LOCKHEED (GA) - V/STOL |      |        | 120 | CA104    | 12*13*73 | - 01*21*74 | 160/165 | 208           | 089B/C-5A | ( 2) |       |      |     |         | UNASSIGNED |

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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY      | WIND        | TUNNEL | NO. | TEST NO. | SCHED.  | TESTING    | HOURS EST/CHG | RUNS | REF.          | MODEL | (ID)  | NO. | STATUS     |
|---------------|-------------|--------|-----|----------|---------|------------|---------------|------|---------------|-------|-------|-----|------------|
| LOCKHEED (GA) | - LOW SPEED |        |     | CA1      | 5*30*74 | - 06*04*74 | 40/ 56        | 50   | ET/C-5A       |       | (399) |     | UNASSIGNED |
| LOCKHEED (GA) | - LOW SPEED |        |     | CA2-1    | 6* 4*74 | - 06*10*74 | 120/ 80       | 100  | 4/140A,B/C-5A |       | ( 43) |     | UNASSIGNED |
| LOCKHEED (GA) | - LOW SPEED |        |     | CA2-2    | 6*11*74 | - 06*23*74 | 40/ 40        | 64   | ET/C-5A       |       | (399) |     | UNASSIGNED |
| LOCKHEED (GA) | - LOW SPEED |        | 190 | SA38F    | 9*23*76 | - 09*27*76 | 32/ 30        | 0    | SRB           |       | ( 0)  |     | UNASSIGNED |

PHASE C/D WIND TUNNEL TESTING PER FACILITY

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| FACILITY     | WIND      | TUNNEL | NO. | TEST NO. | SCHED.             | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.          | MODEL | (ID)  | NO.  | DATAMAN STATUS |
|--------------|-----------|--------|-----|----------|--------------------|----------------|---------------|------|---------------|-------|-------|------|----------------|
| LTV 15X20-FT | LOW SPEED |        | 407 | MA 1     | 8*25*72 - 09*06*72 |                | 80/ 80        | 120  | JSC 040A ORB. |       | ( 95) | 2004 | PUBLISHED      |
| LTV 15X20-FT | LOW SPEED |        | 422 | MA 14    | 4*23*73 - 05*02*73 |                | 80/ 62        | 103  | 2A/0898(CAN)  |       | ( 95) | 2283 | PUBLISHED      |

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## PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY              | WIND | TUNNEL | NO. | TEST NO. | SCHED.              | TESTING | HOURS EST/CHG | RUNS | REF.            | MODEL | (ID)  | NO.  | DATAMAN STATUS |
|-----------------------|------|--------|-----|----------|---------------------|---------|---------------|------|-----------------|-------|-------|------|----------------|
| LTV 4X4-FT SUPERSONIC |      |        | 458 | IA4      | 11* 2*72 - 11*17*72 |         | 80/ 75        | 62   | PRE-ATP/001     |       | ( 9)  | 2015 | PUBLISHED      |
| LTV 4X4-FT SUPERSONIC |      |        | 488 | 0A84     | 12*10*73 - 12*14*73 |         | 80/115        | 207  | 4/140A.B        |       | ( 49) | 2037 | PUBLISHED      |
| LTV 4X4-FT SUPERSONIC |      |        | 498 | LA28     | 6*17*74 - 06*20*74  |         | 40/ 40        | 31   | 140A.B ORB      |       | ( 0)  | 2280 | PUBLISHED      |
| LTV 4X4-FT SUPERSONIC |      |        | 512 | LA58     | 9*30*74 - 10*04*74  |         | 49/ 80        | 72   | 140A.B          |       | ( 42) | 2215 | PUBLISHED      |
| LTV 4X4-FT SUPERSONIC |      |        | 552 | LA67     | 6*20*75 - 07*02*75  |         | 40/120        | 131  | 140C/REMOTE ELE |       | ( 44) | 2266 | PUBLISHED      |
| LTV 4X4-FT SUPERSONIC |      |        | 559 | CA26     | 8* 4*75 - 08*15*75  |         | 94/ 95        | 131  | 140C(MOD)/747   |       | ( 48) | 2273 | PUBLISHED      |
| LTV 4X4-FT SUPERSONIC |      |        | 573 | LA76     | 2*25*76 - 03*06*76  |         | 48/128        | 141  | 140C/REMOTE ELE |       | ( 44) | 2305 | PUBLISHED      |
| LTV 4X4-FT SUPERSONIC |      |        | 742 | LA144    | 7*28*80 - 08*01*80  |         | 80/138        | 198  | VEH 102         |       | (106) | 2484 | PUBLISHED      |



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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY                | WIND | TUNNEL | NO. | TEST NO. | SCHED.   | TESTING    | COMPL. | HOURS EST/CHG | RUNS     | REF. | MODEL | (ID) | NO. | DATAMAN | STATUS     |
|-------------------------|------|--------|-----|----------|----------|------------|--------|---------------|----------|------|-------|------|-----|---------|------------|
| THE BOEING CO. - V/STOL |      |        | 132 | CA92     | 11*27*73 | - 12*04*73 | 80/ 97 | 114           | 0898/747 | ( 2) |       |      |     |         | UNASSIGNED |

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## PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY       | WIND | TUNNEL    | NO.  | TEST NO. | SCHED.   | TESTING | COMPL.   | HOURS EST/CHG | RUNS | REF.          | MODEL | (ID) | NO.        | STATUS |
|----------------|------|-----------|------|----------|----------|---------|----------|---------------|------|---------------|-------|------|------------|--------|
| THE BOEING CO. | -    | TRANSONIC | 1431 | CA5      | 9*20*74  | -       | 09*30*74 | 144/181       | 520  | 140A, B/747   | ( 45) | 2211 | PUBLISHED  |        |
| THE BOEING CO. | -    | TRANSONIC | 1431 | CA20     | 10* 9*74 | -       | 10*15*74 | 115/115       | 288  | 140A, B/747   | ( 45) | 2217 | PUBLISHED  |        |
| THE BOEING CO. | -    | TRANSONIC | 1472 | CA6      | 5*20*75  | -       | 06*06*75 | 200/265       | 509  | 140A, B/747   | ( 45) | 2262 | PUBLISHED  |        |
| THE BOEING CO. | -    | TRANSONIC | 1474 | CS2      | 6* 9*75  | -       | 06*16*75 | 95/ 95        | 165  | 140A, B/747   | ( 45) |      | UNASSIGNED |        |
| THE BOEING CO. | -    | TRANSONIC | 1477 | CA9      | 6*25*75  | -       | 07*14*75 | 320/302       | 85   | 4/140A, B/747 | ( 47) | 2268 | PUBLISHED  |        |
| THE BOEING CO. | -    | TRANSONIC | 1490 | CS4      | 9*29*75  | -       | 10*02*75 | 40/ 64        | 95   | 140A, B/747   | ( 45) | 2341 | PUBLISHED  |        |
| THE BOEING CO. | -    | TRANSONIC | 1493 | CS5      | 11* 3*75 | -       | 11*05*75 | 24/ 33        | 192  | 140A, B/747   | ( 45) | 2341 | PUBLISHED  |        |
| THE BOEING CO. | -    | TRANSONIC | 1496 | CA14     | 11*13*75 | -       | 12*02*75 | 160/236       | 850  | 140A, B/747   | ( 45) | 2307 | PUBLISHED  |        |

APPENDIX A

TABLE A7 - WIND TUNNEL TESTING BY FACILITY - SPACE SHUTTLE PRIME CONTRACTOR  
COMPLEX

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## PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY             | WIND | TUNNEL | TEST NO. | SCHED.              | TESTING COMPL. | HOURS EST/CHG | RUNS | REF.           | MODEL | (ID)  | DATAMAN NO. | STATUS    |
|----------------------|------|--------|----------|---------------------|----------------|---------------|------|----------------|-------|-------|-------------|-----------|
| RI 7X11-FT LOW SPEED |      |        | 689      | 9*25*72 - 10*03*72  |                | 80/ 69        | 183  | ATP            |       | ( 2)  | 2016        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 690      | 10*11*72 - 10*19*72 |                | 60/ 65        | 88   | ATP-MODIF      |       | ( 2)  | 2017        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 693      | 11* 3*72 - 11*16*72 |                | 24/ 41        | 53   | PRE-ATP/001    |       | ( 10) | 2018        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 694      | 11*16*72 - 12*06*72 |                | 60/177        | 218  | PRR            |       | ( 2)  | 2019        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 696      | 12*18*72 - 01*09*73 |                | 60/158        | 192  | 2A/089B        |       | ( 2)  | 2020        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 698      | 1*30*73 - 02*16*73  |                | 120/109       | 300  | 2A/089B        |       | ( 2)  | 2022        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 699      | 2*21*73 - 02*28*73  |                | 80/ 86        | 171  | 2A/089B        |       | ( 2)  | 2021        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 700      | 2*28*73 - 03*15*73  |                | 100/151       | 196  | 2A/089B        |       | ( 2)  | 2030        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 701      | 3*19*73 - 04*17*73  |                | 130/320       | 475  | 2A/089B        |       | ( 2)  | 2038        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 704      | 5* 8*73 - 05*17*73  |                | 100/114       | 189  | 3/139B         |       | ( 43) | 2045        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 705      | 5*21*73 - 06*04*73  |                | 100/ 72       | 348  | 3/139B         |       | ( 43) | 2053        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 705      | 6*21*73 - 06*25*73  |                | 40/ 55        | 99   | 3/139B W/CANS  |       | ( 43) | 2053        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 708      | 7*27*73 - 08*03*73  |                | 50/ 62        | 52   | 2A/089B        |       | ( 2)  | 2068        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 709      | 8* 6*73 - 8*17*73   |                | 100/100       | 61   | 2A/089B        |       | ( 2)  | 2074        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 711      | 8*28*73 - 09*01*73  |                | 80/ 71        | 205  | 3/139B         |       | ( 43) | 2081        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 712      | 9* 4*73 - 09*14*73  |                | 100/139       | 71   | 3/139B         |       | ( 43) | 2086        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 713      | 9*15*73 - 09*17*73  |                | 40/123        | 72   | 2A/089B        |       | ( 2)  | 2080        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 715      | 10* 5*73 - 10*23*73 |                | 120/195       | 98   | 4/140A.B       |       | ( 43) | 2097        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 716      | 10*26*73 - 11*09*73 |                | 80/174        | 331  | 4/140A.B       |       | ( 43) | 2114        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 717      | 11*13*73 - 12*06*73 |                | 100/240       | 448  | 4/140A.B       |       | ( 43) | 2104        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 719      | 1* 7*74 - 01*25*74  |                | 80/103        | 112  | 4/140A.B       |       | ( 47) | 2140        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 721      | 3*15*74 - 03*20*74  |                | 80/ 48        | 85   | 4/140A.B       |       | ( 16) | 2155        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 724      | 4*24*74 - 04*25*74  |                | 48/ 40        | 54   | 4/140A.B       |       | ( 43) | 2139        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 726      | 6*17*74 - 06*25*74  |                | 20/ 45        | 45   | 4/140A.B       |       | ( 16) | 2187        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 730      | 8*22*74 - 09*06*74  |                | 60/100        | 213  | 4/140A.B       |       | ( 16) | 2203        | PUBLISHED |
| RI 7X11-FT LOW SPEED |      |        | 731      | 9* 6*74 - 09*10*74  |                | 40/ 47        | 41   | 4/140A.B (ALT) |       | ( 43) | 2202        | PUBLISHED |

|                      |     |        |                     |         |     |               |       |      |           |
|----------------------|-----|--------|---------------------|---------|-----|---------------|-------|------|-----------|
| RI 7X11-FT LOW SPEED | 736 | OA124  | 10*14*74 - 10*23*74 | 60/ 60  | 127 | 4/140A,B      | ( 43) | 2209 | PUBLISHED |
| RI 7X11-FT LOW SPEED | 737 | OA143  | 11* 6*74 - 11*11*74 | 40/ 55  | 60  | 4/140A,B      | ( 16) | 2221 | PUBLISHED |
| RI 7X11-FT LOW SPEED | 751 | OA163A | 11*24*75 - 12*09*75 | 160/144 | 215 | 4/140A,B      | ( 16) | 2289 | PUBLISHED |
| RI 7X11-FT LOW SPEED | 752 | OA172  | 12*15*75 - 01*13*76 | 120/210 | 122 | 4/140A,B(ALT) | ( 43) | 2294 | PUBLISHED |
| RI 7X11-FT LOW SPEED | 754 | OA176  | 3*29*76 - 04*15*76  | 60/ 83  | 113 | 4/140A,B(ALT) | ( 43) | 2314 | PUBLISHED |
| RI 7X11-FT LOW SPEED | 759 | OA236  | 5*28*76 - 06*02*76  | 10/ 37  | 204 | ADS PROBES    | ( 99) | 2337 | PUBLISHED |
| RI 7X11-FT LOW SPEED | 757 | OA228  | 5*29*76 - 05*01*76  | 16/ 23  | 45  | VEH 102 (ADS) | ( 57) | 2322 | PUBLISHED |
| RI 7X11-FT LOW SPEED | 764 | OA238  | 10*25*76 - 11*08*76 | 24/ 48  | 57  | ADS PROBES    | ( 99) | 2351 | PUBLISHED |
| RJ 7X11-FT LOW SPEED | 776 | OA223  | 11*20*76 - 11*30*76 | 40/ 88  | 13  | VEH 102       | ( 39) | 2402 | PUBLISHED |
| RI 7X11-FT LOW SPEED | 788 | OA163B | 12*21*76 - 12*23*76 | 35/ 35  | 99  | 4/140A,B      | ( 16) | 2361 | PUBLISHED |
| RI 7X11-FT LOW SPEED | 775 | OA250  | 7* 1*77 - 07*07*77  | 32/ 34  | 23  | 140C(ALT)     | ( 45) | 2392 | PUBLISHED |

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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY         | WIND | TUNNEL | NO. | TEST NO. | SCHED.     | TESTING  | COMPL. | HOURS<br>EST/CHG | RUNS | REF.     | MODEL | (10)  | NO.  | STATUS    |
|------------------|------|--------|-----|----------|------------|----------|--------|------------------|------|----------|-------|-------|------|-----------|
| RI 7-FT TRISONIC |      |        | 276 | 0A68     | 6*20*73 -  | 6*29*73  | 60/ 60 | 44               | 44   | 3A/140A  |       | ( 49) | 2061 | PUBLISHED |
| RI 7-FT TRISONIC |      |        | 278 | 0A91     | 10*26*73 - | 11*01*73 | 40/ 40 | 38               | 38   | 4/140A/B |       | ( 49) | 2116 | PUBLISHED |
| RI 7-FT TRISONIC |      |        | 280 | IA69     | 1*10*74 -  | 01*14*75 | 24/ 25 | 14               | 14   | 4/140A.B |       | ( 67) | 2122 | PUBLISHED |
| RI 7-FT TRISONIC |      |        | 281 | IA68     | 1*18*74 -  | 01*29*74 | 32/ 36 | 34               | 34   | 2A/089B  |       | ( 13) | 2144 | PUBLISHED |
| RI 7-FT TRISONIC |      |        | 282 | IA70     | 5* 3*74 -  | 05*24*74 | 80/161 | 173              | 173  | 4/140A.B |       | ( 43) | 2175 | PUBLISHED |
| RI 7-FT TRISONIC |      |        | 297 | IA141    | 3*31*76 -  | 04*05*76 | 30/ 30 | 37               | 37   | 5/140C   |       | ( 72) | 2315 | PUBLISHED |

APPENDIX A

TABLE A8 - WIND TUNNEL TESTING BY FACILITY - UNIVERSITY FACILITIES .

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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY  | WIND    | TUNNEL    | NO.  | TEST NO. | SCHED.   | TESTING    | HOURS EST/CHG | RUNS | REF.    | MODEL     | (ID)  | NO. | DATAMAN | STATUS     |
|-----------|---------|-----------|------|----------|----------|------------|---------------|------|---------|-----------|-------|-----|---------|------------|
| TEXAS A+M | 7X10-FT | LOW SPEED | MA8  | MA8      | 12*15*72 | - 01*27*73 | 40/ 40        | 40   | JSC     | Q40A ORB. | ( 95) |     |         | UNASSIGNED |
| TEXAS A+M | 7X10-FT | LOW SPEED | 7513 | MA24     | 7* 9*75  | - 08*11*75 | 24/176        | 200  | 2A/089B | (MOD)     | ( 2)  |     |         | UNASSIGNED |
| TEXAS A+M | 7X10-FT | LOW SPEED | 7515 | CA16     | 8*23*75  | - 09*05*75 | 72/ 84        | 60   | 140A    | B/747     | ( 45) |     |         | UNASSIGNED |



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PHASE C/D WIND TUNNEL TESTING PER FACILITY

| FACILITY       | WIND      | TUNNEL | NO.   | TEST NO.            | SCHED.  | TESTING | HOURS EST/CHG | RUNS  | REF. | MODEL      | (ID) | NO. | DATAMAN STATUS |
|----------------|-----------|--------|-------|---------------------|---------|---------|---------------|-------|------|------------|------|-----|----------------|
| UNIV. OF WASH. | LOW SPEED | 1128   | CA4   | 5*28*74 - 06*07*74  | 64/120  | 100     | 4/140A.B/747  | ( 43) |      | UNASSIGNED |      |     |                |
| UNIV. OF WASH. | LOW SPEED | 1136   | CA3   | 8*15*74 - 08*30*74  | 120/131 | 194     | 4/140A.B/747  | ( 43) |      | PUBLISHED  |      |     |                |
| UNIV. OF WASH. | LOW SPEED | 1146   | CA11  | 2*12*75 - 02*20*75  | 100/116 | 120     | ET/747        | ( 0)  |      | PUBLISHED  |      |     |                |
| UNIV. OF WASH. | LOW SPEED | 1160   | CS1   | 6* 9*75 - 06*13*75  | 80/ 95  | 165     | 140A.B/747    | ( 8)  |      | UNASSIGNED |      |     |                |
| UNIV. OF WASH. | LOW SPEED | 1170   | CS3   | 9*12*75 - 09*15*75  | 40/ 80  | 129     | 140A.B/747    | ( 8)  |      | PUBLISHED  |      |     |                |
| UNIV. OF WASH. | LOW SPEED | 1173   | CA15A | 10*16*75 - 11*01*75 | 240/239 | 379     | 4/140A.B/747  | ( 43) |      | PUBLISHED  |      |     |                |
| UNIV. OF WASH. | LOW SPEED | 1178   | CA15B | 11*19*75 - 11*26*75 | 75/110  | 93      | 4/140A.B/747  | ( 43) |      | PUBLISHED  |      |     |                |
| UNIV. OF WASH. | LOW SPEED | 1184   | CA17  | 6*21*76 - 07*02*76  | 152/152 | 261     | 4/140A.B/747  | ( 43) |      | PUBLISHED  |      |     |                |

**APPENDIX A**

**TABLE A9 - WIND TUNNEL TESTING BY MODEL**

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 1

| REF.    | MODEL | SCALE | TEST NO. | SCH'D.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY             | WIND | TUNNEL | NO. | NO.  | DOCUMENT STATUS |
|---------|-------|-------|----------|---------------------|---------------|---------------|------|----------------------|------|--------|-----|------|-----------------|
| ATP     |       | .0040 | MA2      | 9*18*72 - 11*06*72  |               | 40/ 80        | 31   | LARC 22-IN HELIUM    |      |        | 409 | 2003 | PUBLISHED       |
| ATP     |       | .0040 | 0A1      | 9*27*72 - 10*07*72  |               | 60/ 96        | 206  | MSFC 14-IN TRANSONIC |      |        | 555 | 2005 | PUBLISHED       |
| ATP     |       | .0040 | 1A1A     | 10*10*72 - 10*19*72 |               | 50/ 84        | 179  | MSFC 14-IN TRANSONIC |      |        | 556 | 2006 | PUBLISHED       |
| ATP     |       | .0040 | 1A1B     | 10*19*72 - 11*28*72 |               | 150/257       | 361  | MSFC 14-IN TRANSONIC |      |        | 545 | 2010 | PUBLISHED       |
| ATP     |       | .0040 | MA9F     | 11*29*72 - 12*07*72 |               | 14/ 75        | 132  | MSFC 14-IN TRANSONIC |      |        | 558 | 2011 | PUBLISHED       |
| PRR/SRB |       | .0040 | SA1F     | 12* 9*72 - 12*23*72 |               | 160/144       | 200  | MSFC 14-IN TRANSONIC |      |        | 554 | 2012 | PUBLISHED       |

# PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 2

| REF.          | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY       | WIND              | TUNNEL | NO.  | NO.  | DOCUMENT STATUS |
|---------------|-------|-------|----------|---------------------|---------------|---------------|------|----------------|-------------------|--------|------|------|-----------------|
| ATP           |       | .0405 | 0A2      | 9*25*72 - 10*03*72  |               | 80/ 69        | 183  | RI 7X11-FT     | LOW SPEED         |        | 689  | 2016 | PUBLISHED       |
| ATP-MODIF     |       | .0405 | 0A5      | 10*11*72 - 10*19*72 |               | 60/ 65        | 88   | RI 7X11-FT     | LOW SPEED         |        | 690  | 2017 | PUBLISHED       |
| PRR           |       | .0405 | 0A6      | 11*15*72 - 12*06*72 |               | 60/177        | 218  | RI 7X11-FT     | LOW SPEED         |        | 694  | 2019 | PUBLISHED       |
| 2A/089B       |       | .0405 | 0A9      | 12*18*72 - 01*09*73 |               | 60/158        | 192  | RI 7X11-FT     | LOW SPEED         |        | 696  | 2020 | PUBLISHED       |
| 2A/089B       |       | .0405 | 0A10     | 1*30*73 - 02*16*73  |               | 120/109       | 300  | RI 7X11-FT     | LOW SPEED         |        | 698  | 2022 | PUBLISHED       |
| 2A/089B       |       | .0405 | 0A45     | 2*21*73 - 02*28*73  |               | 80/ 86        | 171  | RI 7X11-FT     | LOW SPEED         |        | 699  | 2021 | PUBLISHED       |
| 2A/089B       |       | .0405 | 0A14     | 2*28*73 - 03*15*73  |               | 100/151       | 196  | RI 7X11-FT     | LOW SPEED         |        | 700  | 2030 | PUBLISHED       |
| 2A/089B       |       | .0405 | 0A16     | 3*19*73 - 04*17*73  |               | 130/320       | 475  | RI 7X11-FT     | LOW SPEED         |        | 701  | 2038 | PUBLISHED       |
| 2A/089B       |       | .0405 | 0A71A    | 7*27*73 - 08*03*73  |               | 50/ 62        | 52   | RI 7X11-FT     | LOW SPEED         |        | 708  | 2068 | PUBLISHED       |
| 2A/089B       |       | .0405 | 0A57A    | 8* 6*73 - 8*17*73   |               | 100/103       | 61   | RI 7X11-FT     | LOW SPEED         |        | 709  | 2074 | PUBLISHED       |
| 2A/089B       |       | .0405 | 0A57B    | 9*15*73 - 09*17*73  |               | 40/123        | 72   | RI 7X11-FT     | LOW SPEED         |        | 713  | 2080 | PUBLISHED       |
| 089B/C-5A     |       | .0405 | MA16     | 10* 3*73 - 10*12*73 |               | 40/ 56        | 106  | LOCKHEED (CA)  | LOW SPEED         |        | 363  |      | UNASSIGNED      |
| 089B/C-5A     |       | .0400 | CA103    | 11*26*73 - 11*28*73 |               | 24/ 24        | 45   | LOCKHEED (CA)  | LOW SPEED         |        | 365  |      | UNASSIGNED      |
| 089B/747      |       | .0405 | CA92     | 11*27*73 - 12*04*73 |               | 80/ 97        | 114  | THE BOEING CO. | V/STOL            |        | 132  |      | UNASSIGNED      |
| 089B/C-5A     |       | .0405 | CA104    | 12*13*73 - 01*21*74 |               | 160/165       | 208  | LOCKHEED (GA)  | V/STOL            |        | 120  |      | UNASSIGNED      |
| 2A/089B (MOD) |       | .0405 | MA24     | 7* 9*75 - 08*11*75  |               | 24/176        | 200  | TEXAS A+M      | 7X10-FT LOW SPEED |        | 7513 |      | UNASSIGNED      |

2A  
1  
1  
2  
3

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PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 3

| REF.         | MODEL | SCALE | TEST NO. | SCHED.  | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY    | WIND TUNNEL      | NO.  | DOCUMENT NO. | STATUS     |
|--------------|-------|-------|----------|---------|---------------|---------------|------|-------------|------------------|------|--------------|------------|
| PRE-ATIP/001 |       | .0060 | 0H1A-1   | 9*19*72 | - 09*26*72    | 10/ 10        | 130  | LARC MACH 8 | VARIABLE DENSITY | 3234 |              | UNASSIGNED |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 4

| REF.        | MODEL | SCALE | TEST NO. | SCHED.   | TESTING    | COMPL | HOURS EST/CHG | RUNS | FACILITY    | WIND     | TUNNEL  | NO.  | NO. | DOCUMENT STATUS |
|-------------|-------|-------|----------|----------|------------|-------|---------------|------|-------------|----------|---------|------|-----|-----------------|
| PRE-ATP/001 |       | .0140 | 0H1A-2   | 9*19*72  | - 09*26*72 |       | 10/100        | 120  | LARC MACH 8 | VARIABLE | DENSITY | 3234 |     | UNASSIGNED      |
| PRE-ATP/001 |       | .0140 | 0H1B     | 11* 6*72 | - 11*08*72 |       | 40/ 24        | 35   | LARC MACH 8 | VARIABLE | DENSITY | 3283 |     | UNASSIGNED      |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 5

| REF.        | MODEL | SCALE | TEST NO. | SCHED.  | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY    | WIND TUNNEL      | NO.  | DOCUMENT NO. | STATUS     |
|-------------|-------|-------|----------|---------|---------------|---------------|------|-------------|------------------|------|--------------|------------|
| PRE-ATP/001 |       | .0058 | OH1A-3   | 9*19*72 | - 09*26*72    | 10/100        | 120  | LAPC MACH 8 | VARIABLE DENSITY | 3234 |              | UNASSIGNED |

AUG 01, 1984

## PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 6

| REF.    | MODEL | SCALE | TEST NO. | SCHED.   | TESTING    | HOURS EST/CHG | RUNS | FACILITY     | WIND               | TUNNEL | NO.  | NO.  | DOCUMENT STATUS |
|---------|-------|-------|----------|----------|------------|---------------|------|--------------|--------------------|--------|------|------|-----------------|
| ATP     |       | .0150 | 0A4      | 10* 2*72 | - 10*17*72 | 200/176       | 54   | ARC 3.5-FT   | HYPersonic         |        | 147  | 2007 | PUBLISHED       |
| ATP     |       | .0150 | 0A3      | 10*24*72 | - 11*10*72 | 200/320       | 214  | ARC 6X6-FT   | SUPERSONIC         |        | 650  | 2009 | PUBLISHED       |
| ATP     |       | .0150 | LA1      | 11*19*72 | - 12*19*72 | 60/ 84        | 73   | LARC 8-FT    | TRANSONIC PRESSURE |        | 626  | 2002 | PUBLISHED       |
| ATP     |       | .0150 | 0A7      | 11*27*72 | - 12*08*72 | 100/100       | 110  | LARC UNITARY | PLAN               |        | 1007 | 2014 | PUBLISHED       |
| ATP     |       | .0150 | IA8      | 2*12*73  | - 03*12*73 | 80/160        | 54   | ARC 14-FT    | TRANSONIC          |        | 711  | 2173 | PUBLISHED       |
| 2A/089B |       | .0150 | MA7      | 5*14*73  | - 05*18*73 | 50/ 50        | 81   | LARC UNITARY | PLAN               |        | 1031 | 2069 | PUBLISHED       |
| 2A/089B |       | .0150 | MA28     | 9*29*76  | - 09*29*76 | 7/ 1          | 0    | AEDC A /     | SUPERSONIC         |        | K8A  |      | UNASSIGNED      |

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AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 7

| REF.        | MODEL | SCALE | TEST<br>NO. | SCHED.   | TESTING<br>COMPL | HOURS<br>EST/CHG | RUNS | FACILITY   | WIND       | TUNNEL | NO. | NO.  | DOCUMENT<br>STATUS |
|-------------|-------|-------|-------------|----------|------------------|------------------|------|------------|------------|--------|-----|------|--------------------|
| PRE-ATP/001 |       | .0190 | 1A2         | 10*11*72 | 11*03*72         | 40/244           | 92   | ARC 9X7-FT | SUPERSONIC |        | 616 | 2013 | PUBLISHED          |
| PRE-ATP/001 |       | .0190 | 1A7         | 2*12*73  | 02*23*73         | 80/160           | 85   | ARC 11-FT  | TRANSONIC  |        | 686 | 2024 | PUBLISHED          |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01. 1984

MODEL ID : 8

| REF.       | MODEL | SCALE | TEST NO. | SCHED.             | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY        | WIND TUNNEL | NO.  | NO.  | DOCUMENT STATUS |
|------------|-------|-------|----------|--------------------|---------------|---------------|------|-----------------|-------------|------|------|-----------------|
| 140A.B/747 |       | .0460 | CS1      | 6* 9*75 - 06*13*75 |               | 80/ 95        | 165  | UNIV. OF WASH.  | LOW SPEED   | 1160 |      | UNASSIGNED      |
| 140A.B/747 |       | .0460 | CS3      | 9*12*75 - 09*15*75 |               | 40/ 80        | 129  | UNIV. OF WASH.  | LOW SPEED   | 1170 | 2338 | PUBLISHED       |
| 140A.B/747 |       | .0460 | CS6      | 2* 5*76 - 02*11*76 |               | 60/ 58        | 203  | GENERAL DYNAMIC | LOW SPEED   | 691  |      | UNASSIGNED      |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 9

| REF.        | MODEL | SCALE | TEST NO. | SCHED.   | TESTING  | HOURS EST/CHG | RUNS | FACILITY   | WIND       | TUNNEL | NO. | NO.  | DOCUMENT STATUS |
|-------------|-------|-------|----------|----------|----------|---------------|------|------------|------------|--------|-----|------|-----------------|
| PRE-ATP/001 |       | .0075 | IA4      | 11* 2*72 | 11*17*72 | 80/ 75        | 62   | LTV 4X4-FT | SUPERSONIC |        | 458 | 2015 | PUBLISHED       |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 10

| REF.        | MODEL | SCALE | TEST NO. | SCHED.              | TESTING | HOURS EST/CHG | RUNS | FACILITY                     | WIND | TUNNEL | NO.  | NO.  | DOCUMENT STATUS |
|-------------|-------|-------|----------|---------------------|---------|---------------|------|------------------------------|------|--------|------|------|-----------------|
| PRE-ATP/001 |       | .0193 | MA5      | 9*15*72 - 09*25*72  |         | 80/ 60        | 30   | LARC UNITARY PLAN            |      |        | 1002 | 2001 | PUBLISHED       |
| PRE-ATP/001 |       | .0193 | FA1      | 10*10*72 - 11*15*72 |         | 416/400       | 200  | LARC 16-FT TRANSONIC DYNAMIC |      |        | 210  |      | UNASSIGNED      |
| PRE-ATP/001 |       | .0193 | IA3      | 11* 3*72 - 11*16*72 |         | 24/ 41        | 53   | RI 7X11-FT LOW SPEED         |      |        | 693  | 2018 | PUBLISHED       |

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PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 11

| REF.    | MODEL | SCALE | TEST NO. | SCHED.  | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY   | WIND       | TUNNEL | NO. | NO.  | DOCUMENT STATUS |
|---------|-------|-------|----------|---------|---------------|---------------|------|------------|------------|--------|-----|------|-----------------|
| 2A/O89B |       | .0400 | IS1B     | 7*23*73 | 08*01*73      | 60/ 64        | 4    | ARC 9X7-FT | SUPERSONIC |        | 705 | 2401 | PUBLISHED       |
| 2A/O89B |       | .0400 | IS1A     | 8* 2*73 | 08*08*73      | 60/ 60        | 21   | ARC 11-FT  | TRANSONIC  |        | 705 | 2401 | PUBLISHED       |
| 2A/O89B |       | .0400 | IS1C     | 8* 9*73 | 08*11*73      | 12/ 24        | 3    | ARC 8X7-FT | SUPERSONIC |        | 705 | 2401 | PUBLISHED       |
| 2A/O89B |       | .0400 | OS3      | 8*11*73 | 08*14*73      | 58/ 52        | 3    | ARC 8X7-FT | SUPERSONIC |        | 705 | 2401 | PUBLISHED       |

SEP 01, 1982

PHASE C/D WIND TUNNEL TESTING PER FACILITY

MODEL #12 WAS NOT BUILT.....

AUG 01, 1984

## PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 13

| REF.    | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY                    | WIND | TUNNEL | NO.  | DOCUMENT NO. | STATUS    |
|---------|-------|-------|----------|---------------------|---------------|---------------|------|-----------------------------|------|--------|------|--------------|-----------|
| 2A/089B |       | .0040 | IS6B     | 3*20*73 - 05*27*73  |               | 50/ 50        | 70   | MSFC 14-IN TRANSONIC        |      |        | 559  | 2158         | PUBLISHED |
| 2A/089B |       | .0040 | QA47     | 3*28*73 - 04*05*73  |               | 116/116       | 245  | MSFC 14-IN TRANSONIC        |      |        | 568  | 2029         | PUBLISHED |
| 2A/089B |       | .0040 | IA31FA   | 4* 9*73 - 04*13*73  |               | 60/ 60        | 104  | MSFC 14-IN TRANSONIC        |      |        | 566  | 2026         | PUBLISHED |
| 2A/089B |       | .0040 | IA31FB   | 4*13*73 - 04*30*73  |               | 50/271        | 220  | MSFC 14-IN TRANSONIC        |      |        | 570  | 2028         | PUBLISHED |
| 2A/089B |       | .0040 | IA6      | 4*30*73 - 05*03*73  |               | 45/ 52        | 94   | MSFC 14-IN TRANSONIC        |      |        | 571  | 2039         | PUBLISHED |
| 2A/089B |       | .0040 | IA32F    | 5* 9*73 - 05*24*73  |               | 100/180       | 190  | MSFC 14-IN TRANSONIC        |      |        | 567  | 2027         | PUBLISHED |
| 2A/089B |       | .0040 | IA31FC   | 6*21*73 - 07*09*73  |               | 32/ 51        | 145  | MSFC 14-IN TRANSONIC        |      |        | 573  | 2072         | PUBLISHED |
| 2A/089B |       | .0040 | IS6A     | 10* 2*73 - 10*11*73 |               | 80/ 74        | 126  | MSFC 14-IN TRANSONIC        |      |        | 582  | 2158         | PUBLISHED |
| 2A/089B |       | .0040 | IA53     | 12*20*73 - 01*04*74 |               | 40/ 36        | 45   | MSFC 14-IN TRANSONIC        |      |        | 588  | 2123         | PUBLISHED |
| 2A/089B |       | .0040 | IA68     | 1*18*74 - 01*29*74  |               | 32/ 36        | 34   | RI 7-FT TRISONIC            |      |        | 281  | 2144         | PUBLISHED |
| 089B    |       | .0040 | LA88     | 5*21*75 - 05*21*75  |               | 16/ 16        | 6    | LARC 20-IN HYPERSONIC (M=6) |      |        | 6468 | 2311         | PUBLISHED |
| 089B    |       | .0040 | LA87     | 8*26*75 - 08*29*75  |               | 36/ 36        | 4    | LARC 4-FT HYPERSONIC        |      |        | 446  | 2311         | PUBLISHED |
| 089B    |       | .0040 | LA78     | 1*15*76 - 01*28*76  |               | 16/ 16        | 4    | LARC 4-FT HYPERSONIC        |      |        | 267  | 2311         | PUBLISHED |
| 140C    |       | .0040 | LA85     | 4* 7*76 - 05*24*76  |               | 88/ 88        | 64   | LARC 22-IN HELIUM           |      |        | 445  | 2343         | PUBLISHED |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 14

| REF.         | MODEL | SCALE | TEST NO. | SCHED.  | TESTING    | HOURS EST/CHG | RUNS | FACILITY               | WIND | TUNNEL | NO. | NO.  | DOCUMENT STATUS |
|--------------|-------|-------|----------|---------|------------|---------------|------|------------------------|------|--------|-----|------|-----------------|
| 2A/O89B(MOD) |       | 0190  | IA12B    | 4*23*73 | - 05*07*73 | 120/156       | 63   | ARC 9X7-FT SUPERSONIC  |      |        | 710 | 2048 | PUBLISHED       |
| 2A/O89(MOD)  |       | 0190  | IA36     | 6*15*73 | - 06*22*73 | 60/ 80        | 120  | CALSPAN 8-FT TRANSONIC |      |        | 053 | 2064 | PUBLISHED       |
| 2A/O89(MOD)  |       | 0190  | IA12C    | 7*11*73 | - 07*27*73 | 220/220       | 133  | ARC 8X7-FT SUPERSONIC  |      |        | 710 | 2065 | PUBLISHED       |



# PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 15

| REF.      | MODEL | SCALE  | TEST<br>NO. | SCHED.              | TESTING<br>COMPL | HOURS<br>EST/CHG | RUNS | FACILITY              | WIND       | TUNNEL | NO. | DOCUMENT<br>NO. | STATUS     |
|-----------|-------|--------|-------------|---------------------|------------------|------------------|------|-----------------------|------------|--------|-----|-----------------|------------|
| TPS TILES |       | 1.0000 | FH1         | 11*15*72 - 01*01*73 |                  | 160/ 80          | 200  | LARC HIGH RE'S NUMBER | HELIUM     |        | 100 |                 | UNASSIGNED |
| TPS TILES |       | 1.0000 | OH2         | 4*18*73 - 06*01*73  |                  | 40/144           | 81   | ARC 3.5-FT            | HYPERSONIC |        | 158 | 2035            | PUBLISHED  |
| TPS TILES |       | 1.0000 | OH43        | 12* 2*73 - 12*21*73 |                  | 160/128          | 92   | ARC 3.5-FT            | HYPERSONIC |        | 182 | 2250            | PUBLISHED  |
| TPS TILES |       | 1.0000 | IH27        | 9* 7*74 - 09*25*74  |                  | 80/196           | 65   | ARC 3.5-FT            | HYPERSONIC |        | 200 | 2210            | PUBLISHED  |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 16

| REF.     | MODEL | SCALE | TEST NO. | SCHED.     | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY   | WIND      | TUNNEL | NO. | NO.  | DOCUMENT STATUS |
|----------|-------|-------|----------|------------|---------------|---------------|------|------------|-----------|--------|-----|------|-----------------|
| 4/140A,B |       | .0405 | DA110    | 3*15*74 -  | 03*20*74      | 80/ 48        | 85   | RI 7X11-FT | LOW SPEED |        | 721 | 2155 | PUBLISHED       |
| 4/140A,B |       | .0405 | DA119A   | 6*17*74 -  | 06*25*74      | 20/ 45        | 45   | RI 7X11-FT | LOW SPEED |        | 726 | 2187 | PUBLISHED       |
| 4/140A,B |       | .0405 | DA119B   | 8*22*74 -  | 09*06*74      | 60/100        | 213  | RI 7X11-FT | LOW SPEED |        | 730 | 2203 | PUBLISHED       |
| 4/140A,B |       | .0405 | DA143    | 11* 6*74 - | 11*11*74      | 40/ 55        | 60   | RI 7X11-FT | LOW SPEED |        | 737 | 2221 | PUBLISHED       |
| 4/140A,B |       | .0405 | DA163A   | 11*24*75 - | 12*09*75      | 160/144       | 215  | RI 7X11-FT | LOW SPEED |        | 751 | 2289 | PUBLISHED       |
| 4/140A,B |       | .0405 | DA163B   | 12*21*76 - | 12*23*76      | 35/ 35        | 99   | RI 7X11-FT | LOW SPEED |        | 788 | 2361 | PUBLISHED       |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 17

| REF.    | MODEL | SCALE | TEST<br>NO. | SCHED.             | TESTING<br>COMPL | HOURS<br>EST/CHG | RUNS | FACILITY              | WIND | TUNNEL | NO. | NO.  | DOCUMENT<br>STATUS |
|---------|-------|-------|-------------|--------------------|------------------|------------------|------|-----------------------|------|--------|-----|------|--------------------|
| 2A/089B |       | .0300 | 1A9A        | 4* 2*73 - 04*14*73 |                  | 90/113           | 118  | ARC 11-FT TRANSONIC   |      |        | 707 | 2032 | PUBLISHED          |
| 2A/089B |       | .0300 | 0A12A       | 4*12*73 - 04*23*73 |                  | 90/103           | 98   | ARC 11-FT TRANSONIC   |      |        | 707 | 2032 | PUBLISHED          |
| 2A/089B |       | .0300 | 1A9C        | 4*22*73 - 05*01*73 |                  | 60/ 60           | 102  | ARC 8X7-FT SUPERSONIC |      |        | 707 | 2032 | PUBLISHED          |
| 2A/089B |       | .0300 | 1A9B        | 5* 2*73 - 05*09*73 |                  | 100/120          | 65   | ARC 9X7-FT SUPERSONIC |      |        | 707 | 2032 | PUBLISHED          |
| 2A/089B |       | .0300 | 0A12C       | 5* 2*73 - 05*10*73 |                  | 60/ 60           | 46   | ARC 8X7-FT SUPERSONIC |      |        | 707 | 2032 | PUBLISHED          |

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PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 18

| REF.    | MODEL | SCALE | TEST NO. | SCHED.             | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY                     | WIND | TUNNEL | NO.  | DOCUMENT NO. | STATUS    |
|---------|-------|-------|----------|--------------------|---------------|---------------|------|------------------------------|------|--------|------|--------------|-----------|
| 2A/O89B |       | .0150 | 0A11A    | 4* 9*73 - 04*17*73 |               | 144/176       | 62   | ARC 3.5-FT HYPERSONIC        |      |        | 157  | 2044         | PUBLISHED |
| 2A/O89B |       | .0150 | 0A43     | 4*18*73 - 05*04*73 |               | 128/160       | 137  | ARC 6X6-FT SUPERSONIC        |      |        | 706  | 2050         | PUBLISHED |
| 2A/O89B |       | .0150 | 0A11B    | 5*14*73 - 05*25*73 |               | 140/160       | 70   | ARC 3.5-FT HYPERSONIC        |      |        | 160  | 2059         | PUBLISHED |
| 2A/O89B |       | .0150 | 0A44-1   | 6* 1*73 - 06*08*73 |               | 40/ 54        | 47   | LARC UNITARY PLAN            |      |        | 1035 | 2057         | PUBLISHED |
| 2A/O89B |       | .0150 | 0A17-2   | 6*18*73 - 07*06*73 |               | 20/100        | 55   | LARC LOW TURBULANCE PRESSURE |      |        | 138  | 2058         | PUBLISHED |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 19

| REF.    | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY      | WIND       | TUNNEL | NO. | NO.  | DOCUMENT STATUS |
|---------|-------|-------|----------|---------------------|---------------|---------------|------|---------------|------------|--------|-----|------|-----------------|
| 2A/089B |       | .0225 | IH5      | 1*21*74 - 07*22*74  |               | 120/105       | 106  | CALSPAN 32-IN | LUDWIEG    |        | 181 | 2308 | PUBLISHED       |
| 5/140C  |       | .0225 | IH34     | 5* 5*75 - 09*03*75  |               | 240/264       | 57   | LERC 10X10-FT | SUPERSONIC |        | 038 | 2282 | PUBLISHED       |
| 5/140C  |       | .0225 | IH39     | 9*22*76 - 04*14*77  |               | 240/226       | 163  | LERC 10X10-FT | SUPERSONIC |        | 041 | 2435 | PUBLISHED       |
| 5/140C  |       | .0225 | IH75     | 10* 3*77 - 12*12*77 |               | 200/320       | 41   | CALSPAN 32-IN | LUDWIEG    |        | 100 | 2453 | PUBLISHED       |
| 5/140C  |       | .0225 | IH83     | 1*25*78 - 03*10*78  |               | 200/102       | 41   | LERC 10X10-FT | SUPERSONIC |        | 044 | 2440 | PUBLISHED       |

SEP 01. 1982

PHASE C/D WIND TUNNEL TESTING PER FACILITY

MODEL # 20 WAS NOT BUILT

AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 21

| REF.   | MODEL | SCALE | TEST NO. | SCHED.  | TESTING    | HOURS EST/CHG | RUNS | FACILITY    | WIND   | TUNNEL     | NO.  | DOCUMENT NO. | STATUS    |
|--------|-------|-------|----------|---------|------------|---------------|------|-------------|--------|------------|------|--------------|-----------|
| 3/139B |       | .0175 | OH3A     | 6*28*73 | - 06*30*73 | 40/ 16        | 36   | AEDC B      | /      | HYPERSONIC | 288  | 2100         | PUBLISHED |
| 3/139B |       | .0175 | OH3B     | 7* 9*73 | - 07*11*73 | 40/ 23        | 147  | AEDC B      | /      | HYPERSONIC | 289  | 2100         | PUBLISHED |
| 3/139B |       | .0175 | OH4C     | 9*26*73 | - 09*26*73 | 8/ 8          | 60   | AEDC B      | /      | HYPERSONIC | 352  | 2225         | PUBLISHED |
| 3/139B |       | .0175 | OA99     | 3*26*74 | - 4*12*74  | 50/ 52        | 14   | LARC 60-FT. | VACUUM | SPHERE     | 3289 | 2172         | PUBLISHED |
| 3/139B |       | .0175 | OH25A    | 8*21*74 | - 08*22*74 | 12/ 12        | 82   | AEDC B      | /      | HYPERSONIC | 83A  | 2252         | PUBLISHED |

AUG 01, 1984

## PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 22

| REF.   | MODEL | SCALE | TEST NO. | SCHED.   | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY     | WIND    | TUNNEL | NO.  | DOCUMENT NO. | STATUS    |
|--------|-------|-------|----------|----------|---------------|---------------|------|--------------|---------|--------|------|--------------|-----------|
| 3/139  |       | .0175 | DH48     | 9*29*73  | - 10*04*73    | 48/ 38        | 224  | AEDC B /     | HYPERSO | NIC    | 352  | 2099         | PUBLISHED |
| 3/139  |       | .0175 | IH3      | 10*31*73 | - 11*09*73    | 128/128       | 79   | ARC 3.5-FT   | HYPERSO | NIC    | 178  | 2136         | PUBLISHED |
| 3/139  |       | .0175 | IH1      | 12* 3*73 | - 12*14*73    | 100/100       | 44   | LARC UNITARY | PLAN    |        | 1071 | 2153         | PUBLISHED |
| 3/139  |       | .0175 | IH20     | 1*18*74  | - 02*06*74    | 192/192       | 105  | ARC 3.5-FT   | HYPERSO | NIC    | 185  | 2148         | PUBLISHED |
| 3/139  |       | .0175 | FH10     | 1*21*74  | - 01*29*74    | 32/ 32        | 9    | AEDC F /     | HYPERSO | NIC    | 291  | 2197         | PUBLISHED |
| 3/139  |       | .0175 | DH6      | 2* 6*74  | - 02*11*74    | 148/ 56       | 39   | ARC 3.5-FT   | HYPERSO | NIC    | 183  | 2151         | PUBLISHED |
| 3/139B |       | .0175 | DH49A    | 4* 3*74  | - 04*06*74    | 216/ 17       | 87   | AEDC B /     | HYPERSO | NIC    | 525  | 2355         | PUBLISHED |
| 4/140B |       | .0175 | DH49B    | 7* 2*74  | - 07*12*74    | 72/ 67        | 454  | AEDC B /     | HYPERSO | NIC    | 57A  | 2222         | PUBLISHED |
| 4/140B |       | .0175 | DH26     | 7*22*74  | - 07*29*74    | 80/ 96        | 56   | ARC 3.5-FT   | HYPERSO | NIC    | 199  | 2193         | PUBLISHED |

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PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 23

| REF.    | MODEL | SCALE | TEST NO. | SCHED.  | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY                      | WIND TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|---------|-------|-------|----------|---------|---------------|---------------|------|-------------------------------|-------------|-----|--------------|-----------|
| 2A/0898 |       | .0200 | 051      | 8* 6*73 | 08*10*73      | 80/ 72        | 39   | LARC 26-IN TRANSONIC BLOWDOWN |             | 545 | 2094         | PUBLISHED |

AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 24

| REF. | MODEL | SCALE | TEST NO. | SCHED.  | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY                      | WIND TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|------|-------|-------|----------|---------|---------------|---------------|------|-------------------------------|-------------|-----|--------------|-----------|
| ATP  |       | .0250 | 052      | 6* 4*73 | 06*07*73      | 120/ 24       | 18   | LARC 26-IN TRANSONIC BLOWDOWN |             | 544 | 2067         | PUBLISHED |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 25

| REF.    | MODEL | SCALE | TEST<br>ND. | SCHED.    | TESTING<br>COMPL | HOURS<br>EST/CHG | RUNS | FACILITY                    | WIND | TUNNEL | NO.  | ND.  | DOCUMENT<br>STATUS |
|---------|-------|-------|-------------|-----------|------------------|------------------|------|-----------------------------|------|--------|------|------|--------------------|
| 2A/089B |       | .0400 | 1A109       | 7*26*70 - | 8* 8*74          | 40/100           | 19   | MSFC IMPULSE BASE FLOW FAC. |      |        | 27   | 2382 | PUBLISHED          |
| 2A/089B |       | .0400 | 0H8F        | 5*15*74 - | 07*16*74         | 340/334          | 66   | MSFC IMPULSE BASE FLOW FAC. |      |        | 027  | 2382 | PUBLISHED          |
| 2A/089B |       | .0400 | 0H64        | 4*14*75 - | 06*20*75         | 200/450          | 200  | LERC SPACE POWER FACILITY   |      |        | 0H64 | 2288 | PUBLISHED          |

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PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 26

| REF.  | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY              | WIND | TUNNEL | NO.  | DOCUMENT NO. | STATUS    |
|-------|-------|-------|----------|---------------------|---------------|---------------|------|-----------------------|------|--------|------|--------------|-----------|
| 3/139 |       | .0100 | 0H10     | 8*17*73 - 09*04*73  |               | 96/104        | 35   | ARC 3.5-FT HYPERSONIC |      |        | 171  | 2085         | PUBLISHED |
| 3/139 |       | .0100 | 1H2      | 9* 4*73 - 09*11*73  |               | 80/104        | 21   | ARC 3.5-FT HYPERSONIC |      |        | 171  | 2085         | PUBLISHED |
| 3/139 |       | .0100 | 1H4      | 11*12*73 - 11*16*73 |               | 40/ 64        | 47   | LARC UNITARY PLAN     |      |        | 1059 | 2138         | PUBLISHED |

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PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 27

| REF.        | MODEL | SCALE | TEST NO. | SCHED.  | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY   | WIND       | TUNNEL | NO. | NO. | DOCUMENT STATUS |
|-------------|-------|-------|----------|---------|---------------|---------------|------|------------|------------|--------|-----|-----|-----------------|
| RI PRR ORB. |       | .0150 | MA6      | 4* 2*73 | - 04-06*73    | 120/136       | 4    | ARC 3.5-FT | HYPERSONIC |        | 156 |     | UNASSIGNED      |

SEP 01, 1982

PHASE C/D WIND TUNNEL TESTING PER FACILITY

MODEL # 28 WAS NOT BUILT

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 29

| REF.   | MODEL | SCALE | TEST NO. | SCHED.   | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY | WIND         | TUNNEL | NO.  | DOCUMENT NO. | STATUS     |
|--------|-------|-------|----------|----------|---------------|---------------|------|----------|--------------|--------|------|--------------|------------|
| 3/139  |       | .0175 | OH9      | 9*13*73  | - 09*21*73    | 16/ 16        | 61   | AEDC B   | / HYPERSONIC |        | 353  | 2251         | PUBLISHED  |
| 3/139  |       | .0175 | OH11     | 10*24*73 | - 11*01*73    | 40/ 37        | 23   | AEDC F   | / HYPERSONIC |        | VA35 | 2141         | PUBLISHED  |
| 3/139  |       | .0175 | OH4A     | 11*12*73 | - 12*05*73    | 20/ 20        | 57   | AEDC B   | / HYPERSONIC |        | 352  | 2154         | PUBLISHED  |
| 3/139B |       | .0175 | OH52     | 5* 6*74  | - 05*15*74    | 16/ 16        | 32   | AEDC B   | / HYPERSONIC |        | 524  | 2330         | PUBLISHED  |
| 4/140B |       | .0175 | MH2      | 9* 3*75  | - 01*23*76    | 16/ 11        | 22   | AEDC B   | / HYPERSONIC |        | D5A  |              | UNASSIGNED |
| 4/140B |       | .0175 | MH1      | 1*13*76  | - 01*23*76    | 24/ 64        | 30   | AEDC F   | / HYPERSONIC |        | 29A  |              | UNASSIGNED |

AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 30

| REF.    | MODEL | SCALE | TEST NO. | SCHED.   | TESTING    | HOURS EST/CHG | RUNS | FACILITY                      | WIND TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|---------|-------|-------|----------|----------|------------|---------------|------|-------------------------------|-------------|-----|--------------|-----------|
| 2A/089B |       | .0125 | IS4      | 10*18*73 | - 10*24*73 | 120/ 58       | 94   | LARC 26-IN TRANSONIC BLOWDOWN |             | 547 | 2146         | PUBLISHED |



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PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 31

| REF.    | MODEL | SCALE | TEST NO. | TESTING SCHED.     | HOURS EST/CHG | RUNS | FACILITY    | WIND TUNNEL      | NO.  | DOCUMENT NO. | STATUS    |
|---------|-------|-------|----------|--------------------|---------------|------|-------------|------------------|------|--------------|-----------|
| 2A/089B |       | .0060 | 0H40     | 1*30*73 - 02*05*73 | 36/ 40        | 52   | LARC MACH 8 | VARIABLE DENSITY | 3619 | 2049         | PUBLISHED |

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## PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 32

| REF.       | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOUE'S EST/CHG | RUNS | FACILITY                     | WIND | TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|------------|-------|-------|----------|---------------------|---------------|----------------|------|------------------------------|------|--------|-----|--------------|-----------|
| 3/139B     |       | .0100 | IA13     | 7* 5*73 - 07*17*73  |               | 40/ 39         | 762  | AEDC A / SUPERSONIC          |      |        | 323 | 2062         | PUBLISHED |
| 3/139B     |       | .0100 | 0A23-2   | 7*26*73 - 07*31*73  |               | 80/ 90         | 39   | ARC 3.5-FT HYPERSONIC        |      |        | 168 | 2071         | PUBLISHED |
| 3/139B     |       | .0100 | IA10     | 8* 1*73 - 08*03*73  |               | 50/ 40         | 18   | ARC 3.5-FT HYPERSONIC        |      |        | 169 | 2078         | PUBLISHED |
| 3/139B     |       | .0100 | LA25     | 8*30*73 - 09*07*73  |               | 40/ 48         | 126  | LARC 31-IN CONT-FLOW HYP.    |      |        | 100 | 2126         | CANCEL    |
| 3/139B     |       | .0100 | IA15     | 10*10*73 - 10*16*73 |               | 64/ 80         | 25   | ARC 3.5-FT HYPERSONIC        |      |        | 175 | 2102         | PUBLISHED |
| 3/139B     |       | .0100 | 0A85     | 10*31*73 - 11*08*73 |               | 50/ 60         | 75   | LARC 31-IN CONT-FLOW HYP.    |      |        | 101 | 2113         | PUBLISHED |
| 3/139B     |       | .0100 | LA35     | 11*12*73 - 11*13*73 |               | 16/ 20         | 19   | LARC 31-IN CONT-FLOW HYP.    |      |        | 102 | 2127         | PUBLISHED |
| 3/139.089B |       | .0100 | IA57     | 11*20*73 - 11*20*73 |               | 10/ 9          | 10   | AEDC A / SUPERSONIC          |      |        | 422 | 2112         | PUBLISHED |
| 3/139.089B |       | .0100 | IA61A    | 1*30*74 - 01*31*74  |               | 10/ 10         | 88   | AEDC A / SUPERSONIC          |      |        | 422 | 2143         | PUBLISHED |
| 3/139.089B |       | .0100 | IA58     | 2*11*74 - 02*13*74  |               | 32/ 40         | 34   | LARC 31-IN CONT-FLOW HYP.    |      |        | 107 | 2133         | PUBLISHED |
| 3/139.089B |       | .0100 | IA60     | 2*14*74 - 02*20*74  |               | 15/ 36         | 55   | LARC 31-IN CONT-FLOW HYP.    |      |        | 108 | 2137         | PUBLISHED |
| 4/140A.B   |       | .0100 | 0A105    | 2*20*74 - 2*22*74   |               | 16/ 20         | 50   | LARC 31-IN CONT-FLOW HYP.    |      |        | 109 | 2137         | PUBLISHED |
| 4/140A.B   |       | .0100 | 0A82     | 8*12*74 - 08*16*74  |               | 40/ 48         | 96   | LARC 31-IN CONT-FLOW HYP.    |      |        | 113 | 2195         | PUBLISHED |
| 4/140A.B   |       | .0100 | MA22     | 5* 6*75 - 06*03*75  |               | 100/ 168       | 357  | LARC 31-IN CONT-FLOW HYP.    |      |        | 118 | 2267         | PUBLISHED |
| 140A.B     |       | .0100 | LA36B    | 6* 3*75 - 06*05*75  |               | 75/ 27         | 41   | LARC LOW TURBULANCE PRESSURE |      |        | 214 | 2292         | PUBLISHED |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 33

| REF.    | MODEL | SCALE | TEST NO. | SCHED.             | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY    | WIND TUNNEL      | NO.  | NO.  | DOCUMENT STATUS |
|---------|-------|-------|----------|--------------------|---------------|---------------|------|-------------|------------------|------|------|-----------------|
| 2A/089B |       | .0060 | 0H41A    | 3*19*73 - 03*28*73 |               | 40/ 64        | 78   | LARC MACH 8 | VARIABLE DENSITY | 3778 | 2075 | PUBLISHED       |

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## PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 34

| REF.           | MODEL | SCALE | TEST NO.            | SCHED.  | TESTING COMPL | HOURS EST/CHG        | RUNS | FACILITY | WIND       | TUNNEL | NO. | DOCUMENT NO. | STATUS |
|----------------|-------|-------|---------------------|---------|---------------|----------------------|------|----------|------------|--------|-----|--------------|--------|
| 3/139B, W/CANS | .0040 | 0A48  | 5*25*73 - 6*11*73   | 100/166 | 364           | MSFC 14-IN TRANSONIC | 574  | 2055     | PUBLISHED  |        |     |              |        |
| 3A/139B        | .0040 | 1A37A | 7*10*73 - 07*13*73  | 60/ 36  | 64            | MSFC 14-IN TRANSONIC | 579  | 2063     | PUBLISHED  |        |     |              |        |
| 3A/139B        | .0040 | 1A48  | 7*18*73 - 07*21*73  | 20/ 24  | 40            | MSFC 14-IN TRANSONIC | 580  | 2063     | PUBLISHED  |        |     |              |        |
| 3A/139B        | .0040 | 0A72  | 7*30*73 - 08*24*73  | 40/176  | 42            | LARC 22-IN HELIUM    | 415  | 2092     | PUBLISHED  |        |     |              |        |
| 3A/139B        | .0040 | 1A52  | 10*11*73 - 10*17*73 | 16/ 28  | 27            | MSFC 14-IN TRANSONIC | 584  | 2042     | PUBLISHED  |        |     |              |        |
| 3A/139B        | .0040 | 1A37B | 10*15*73 - 10*16*73 | 16/ 22  | 42            | MSFC 14-IN TRANSONIC | 585  | 2093     | PUBLISHED  |        |     |              |        |
| 4/140A, B      | .0040 | 0A49  | 10*18*73 - 11*09*73 | 198/170 | 415           | MSFC 14-IN TRANSONIC | 581  | 2095     | PUBLISHED  |        |     |              |        |
| 4/140A, B      | .0040 | 1A62F | 11*15*73 - 11*19*73 | 16/ 19  | 33            | MSFC 14-IN TRANSONIC | 589  | 2103     | PUBLISHED  |        |     |              |        |
| 4/140A, B      | .0040 | 0A88  | 12*11*73 - 12*28*73 | 60/ 60  | 191           | LARC 22-IN HELIUM    | 7422 | 2125     | PUBLISHED  |        |     |              |        |
| 5/140C         | .0040 | MA21  | 8*15*75 - 09*04*75  | 80/ 92  | 50            | JPL 20-IN SUPERSONIC | 702  |          | UNASSIGNED |        |     |              |        |

PHASE C/D WIND TUNNEL TESTING PER MODEL

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MODEL ID : 35

| REF.       | MODEL | SCALE | TEST NO. | SCHED.  | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY             | WIND | TUNNEL | NO. | DOCUMENT NO. | STATUS     |
|------------|-------|-------|----------|---------|---------------|---------------|------|----------------------|------|--------|-----|--------------|------------|
| TILE PANEL |       | .1820 | 0532     | 7*15*76 | 7*27*76       | 96/ 80        | 89   | ARC 2X2-FT TRANSONIC |      |        | 167 | 2339         | IN PROCESS |

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## PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 36

| REF.      | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY                     | WIND | TUNNEL | NO.  | NO.  | DOCUMENT STATUS |
|-----------|-------|-------|----------|---------------------|---------------|---------------|------|------------------------------|------|--------|------|------|-----------------|
| 4/140A, B |       | .0150 | 1A29     | 9*12*73 - 09*25*73  |               | 80/184        | 111  | ARC 6X6-FT SUPERSONIC        |      |        | 630  | 2077 | PUBLISHED       |
| 4/140A, B |       | .0150 | 0A63     | 9*25*73 - 9*28*73   |               | 64/ 80        | 98   | ARC 6X6-FT SUPERSONIC        |      |        | 630  | 2077 | PUBLISHED       |
| 4/140A, B |       | .0150 | 0A64     | 10*30*73 - 10*31*73 |               | 50/ 30        | 28   | LARC UNITARY PLAN            |      |        | 1063 | 2108 | PUBLISHED       |
| 4/140A, B |       | .0150 | 1A35     | 11* 1*73 - 11*02*73 |               | 60/ 30        | 22   | LARC UNITARY PLAN            |      |        | 1063 | 2108 | PUBLISHED       |
| 4/140A, B |       | .0150 | 1A16     | 11*17*73 - 12*04*73 |               | 80/ 52        | 9    | ARC 3.5-FT HYPERSONIC        |      |        | 180  | 2124 | PUBLISHED       |
| 4/140A, B |       | .0150 | 0A26     | 11*17*73 - 12*04*73 |               | 64/140        | 27   | ARC 3.5-FT HYPERSONIC        |      |        | 180  | 2124 | PUBLISHED       |
| 4/140A, B |       | .0150 | 0A83     | 5* 8*74 - 05*16*74  |               | 80/160        | 34   | ARC 3.5-FT HYPERSONIC        |      |        | 194  | 2177 | PUBLISHED       |
| 4/140A, B |       | .0150 | 0A102    | 6*17*74 - 06*18*74  |               | 18/ 18        | 10   | LARC 8-FT TRANSONIC PRESSURE |      |        | 687  | 2229 | PUBLISHED       |

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PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 37

| REF.   | MODEL | SCALE | TEST NO. | SCHED.   | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY | WIND       | TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|--------|-------|-------|----------|----------|---------------|---------------|------|----------|------------|--------|-----|--------------|-----------|
| 3/139  |       | .0100 | IH21     | 10*29*73 | - 12*13*73    | 80/145        | 31   | CALSPAN  | HYPersonic | SHOCK  | 100 | 2164         | PUBLISHED |
| 3/139  |       | .0100 | OH12     | 10*29*73 | - 12*13*73    | 80/145        | 32   | CALSPAN  | HYPersonic | SHOCK  | 100 | 2164         | PUBLISHED |
| 5/140C |       | .0100 | IH33A    | 10*14*74 | - 10*18*74    | 32/ 32        | 10   | CALSPAN  | HYPersonic | SHOCK  | 120 | 2249         | PUBLISHED |
| 5/140C |       | .0100 | IH33B    | 12* 5*74 | - 12*19*74    | 48/ 80        | 24   | CALSPAN  | HYPersonic | SHOCK  | 131 | 2249         | PUBLISHED |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 38

| REF.        | MODEL | SCALE | TEST NO. | SCHED.             | TESTING | HOURS EST/CHG | RUNS | FACILITY    | WIND     | TUNNEL  | NO.  | DOCUMENT NO. | STATUS     |
|-------------|-------|-------|----------|--------------------|---------|---------------|------|-------------|----------|---------|------|--------------|------------|
| PRE-ATP/001 |       | .0058 | 0H1A-4   | 9*19*72 - 09*26*72 |         | 10/100        | 120  | LARC MACH 8 | VARIABLE | DENSITY | 3234 |              | UNASSIGNED |
| 2A/089B     |       | .0058 | 0H41B    | 5* 8*73 - 05*10*73 |         | 40/ 24        | 20   | LARC MACH 8 | VARIABLE | DENSITY | 4060 | 2076         | PUBLISHED  |



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PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 39

| REF.    | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY              | WIND | TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|---------|-------|-------|----------|---------------------|---------------|---------------|------|-----------------------|------|--------|-----|--------------|-----------|
| VEH 102 |       | .0500 | 0A223    | 11*20*76 - 11*30*76 |               | 40/ 88        | 13   | RI 7X11-FT LOW SPEED  |      |        | 776 | 2402         | PUBLISHED |
| VEH 102 |       | .0500 | 0A145A   | 3* 8*77 - 04*02*77  |               | 160/480       | 981  | ARC 11-FT TRANSONIC   |      |        | 118 | 2380         | PUBLISHED |
| VEH 102 |       | .0500 | 0A145C   | 4* 6*77 - 04*20*77  |               | 80/100        | 188  | ARC 8X7-FT SUPERSONIC |      |        | 118 | 2389         | PUBLISHED |
| VEH 102 |       | .0500 | 0A145B   | 4*15*77 - 05*03*77  |               | 80/348        | 240  | ARC 9X7-FT SUPERSONIC |      |        | 118 | 2364         | PUBLISHED |
| VEH 102 |       | .0500 | 0A101    | 9*13*77 - 11*11*77  |               | 160/160       | 373  | ARC 12-FT PRESSURE    |      |        | 218 | 2405         | PUBLISHED |
| VEH 102 |       | .0500 | 0A270A   | 5*15*78 - 06*09*78  |               | 60/160        | 156  | LARC 16-FT TRANSONIC  |      |        | 325 | 2430         | PUBLISHED |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 40

| REF.   | MODEL | SCALE  | TEST NO. | SCHED.              | TESTING | HOURS<br>EST/CHG | RUNS | FACILITY   | WIND      | TUNNEL<br>NO. | DOCUMENT<br>NO. | STATUS    |
|--------|-------|--------|----------|---------------------|---------|------------------|------|------------|-----------|---------------|-----------------|-----------|
| PANELS |       | 1.0000 | 054A     | 9* 9*74 - 10*09*74  |         | 154/260          | 36   | ARC 2X2-FT | TRANSONIC | 041           | 2450            | PUBLISHED |
| PANELS |       | 1.0000 | 054B     | 11*18*75 - 01*15*76 |         | 140/ 96          | 0    | ARC 2X2-FT | TRANSONIC | 154           | 2450            | PUBLISHED |

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PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 41

| REF.    | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY          | WIND             | TUNNEL | NO.  | NO.  | DOCUMENT STATUS |
|---------|-------|-------|----------|---------------------|---------------|---------------|------|-------------------|------------------|--------|------|------|-----------------|
| 2A/O89B |       | .0060 | 0H13     | 6*13*73 - 06*13*73  |               | 8/ 8          | 18   | LARC MACH 8       | VARIABLE DENSITY |        | 644  | 2096 | PUBLISHED       |
| 2A/O89B |       | .0060 | 1H16     | 7* 6*73 - 07*13*73  |               | 35/ 80        | 12   | LARC UNITARY PLAN |                  |        | 1041 | 2166 | PUBLISHED       |
| 2A/O89B |       | .0060 | 1H15     | 8*13*73 - 08*17*73  |               | 64/ 72        | 30   | ARC 3.5-FT        | HYPERSONIC       |        | 172  | 2098 | PUBLISHED       |
| 2A/O89B |       | .0060 | 1H17     | 10* 9*73 - 10*16*73 |               | 40/ 48        | 59   | LARC MACH 8       | VARIABLE DENSITY |        | 646  | 2105 | PUBLISHED       |
| 2A/O89B |       | .0060 | 1H18     | 10*19*73 - 10*30*73 |               | 40/ 40        | 22   | LARC 20-IN        | FREON            |        | 118  | 2110 | PUBLISHED       |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 42

| REF.   | MODEL | SCALE | TEST NO. | SCHED.   | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY            | WIND TUNNEL | NO.  | DOCUMENT NO. | STATUS     |
|--------|-------|-------|----------|----------|---------------|---------------|------|---------------------|-------------|------|--------------|------------|
| 3/139B |       | .0150 | 0A58     | 6* 4*73  | - 06*18*73    | 80/ 76        | 38   | ARC 3.5-FT          | HYPERSONIC  | 163  | 2060         | PUBLISHED  |
| 3/139B |       | .0150 | 0A44-2   | 6*11*73  | - 06*15*73    | 40/ 54        | 36   | LARC UNITARY        | PLAN        | 1035 | 2057         | PUBLISHED  |
| 3/139B |       | .0150 | 0A17-1   | 6*18*73  | - 07*06*73    | 60/124        | 65   | LARC LOW TURBULANCE | PRESSURE    | 138  | 2058         | PUBLISHED  |
| 3/139B |       | .0150 | 0A73     | 7*11*73  | - 7*18*73     | 60/ 96        | 37   | ARC 3.5-FT          | HYPERSONIC  | 167  | 2082         | PUBLISHED  |
| 3/139B |       | .0150 | 0A70     | 7*20*73  | - 7*26*73     | 30/ 40        | 66   | LARC UNITARY        | PLAN        | 1043 | 2073         | PUBLISHED  |
| 140A.B |       | .0150 | LA36A    | 11* 5*73 | - 11*11*73    | 75/ 75        | 22   | LARC 16-FT          | TRANSONIC   | 149  |              | UNASSIGNED |
| 140A.B |       | .0150 | LA58     | 9*30*74  | - 10*04*74    | 49/ 80        | 72   | LTV 4X4-FT          | SUPERSONIC  | 512  | 2215         | PUBLISHED  |

AUG 01, 1984

## PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 43

| REF.           | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY       | WIND      | TUNNEL | NO.  | DOCUMENT NO. | STATUS     |
|----------------|-------|-------|----------|---------------------|---------------|---------------|------|----------------|-----------|--------|------|--------------|------------|
| 3/139B         |       | .0405 | 0A18     | 5* 8*73 - 05*17*73  |               | 100/114       | 189  | RI 7X11-FT     | LOW SPEED |        | 704  | 2045         | PUBLISHED  |
| 3/139B         |       | .0405 | 0A21A    | 5*21*73 - 06*04*73  |               | 100/ 72       | 348  | RI 7X11-FT     | LOW SPEED |        | 705  | 2053         | PUBLISHED  |
| 3/139B W/CANS  |       | .0405 | 0A21B    | 6*21*73 - 06*25*73  |               | 40/ 55        | 99   | RI 7X11-FT     | LOW SPEED |        | 705  | 2053         | PUBLISHED  |
| 3/139B         |       | .0405 | 0A69     | 8*28*73 - 09*01*73  |               | 80/ 71        | 205  | RI 7X11-FT     | LOW SPEED |        | 711  | 2081         | PUBLISHED  |
| 3/139B         |       | .0405 | 0A71C    | 9* 4*73 - 09*14*73  |               | 100/139       | 71   | RI 7X11-FT     | LOW SPEED |        | 712  | 2086         | PUBLISHED  |
| 4/140A.B       |       | .0405 | 0A62A    | 10* 5*73 - 10*23*73 |               | 120/195       | 98   | RI 7X11-FT     | LOW SPEED |        | 715  | 2097         | PUBLISHED  |
| 4/140A.B       |       | .0405 | 0A86     | 10*26*73 - 11*09*73 |               | 80/174        | 331  | RI 7X11-FT     | LOW SPEED |        | 716  | 2114         | PUBLISHED  |
| 4/140A.B       |       | .0405 | 0A62B    | 11*13*73 - 12*06*73 |               | 100/240       | 448  | RI 7X11-FT     | LOW SPEED |        | 717  | 2104         | PUBLISHED  |
| 4/140A.B       |       | .0405 | 0A118    | 4*24*74 - 04*26*74  |               | 48/ 40        | 54   | RI 7X11-FT     | LOW SPEED |        | 724  | 2139         | PUBLISHED  |
| 4/140A.B/747   |       | .0405 | CA4      | 5*28*74 - 06*07*74  |               | 64/120        | 100  | UNIV. OF WASH. | LOW SPEED |        | 1128 |              | UNASSIGNED |
| 4/140A.B/C-5A  |       | .0405 | CA2-1    | 6* 4*74 - 06*10*74  |               | 120/ 80       | 100  | LOCKHEED (GA)  | LOW SPEED |        |      |              | UNASSIGNED |
| 4/140A.B/747   |       | .0405 | CA3      | 8*15*74 - 08*30*74  |               | 120/131       | 194  | UNIV. OF WASH. | LOW SPEED |        | 1136 | 2201         | PUBLISHED  |
| 4/140A.B (ALT) |       | .0405 | 0A123    | 9* 6*74 - 09*10*74  |               | 40/ 47        | 41   | RI 7X11-FT     | LOW SPEED |        | 731  | 2202         | PUBLISHED  |
| 4/140A.B       |       | .0405 | 0A124    | 10*14*74 - 10*23*74 |               | 60/ 60        | 127  | RI 7X11-FT     | LOW SPEED |        | 736  | 2209         | PUBLISHED  |
| 4/140A.B/747   |       | .0405 | CA8      | 8*18*75 - 09*12*75  |               | 200/324       | 536  | LARC V/STOL    |           |        | 129  | 2290         | PUBLISHED  |
| 4/140A.B/747   |       | .0405 | CA15A    | 10*16*75 - 11*01*75 |               | 240/239       | 379  | UNIV. OF WASH. | LOW SPEED |        | 1173 | 2347         | PUBLISHED  |
| 4/140A.B/747   |       | .0405 | CA15B    | 11*19*75 - 11*26*75 |               | 75/110        | 93   | UNIV. OF WASH. | LOW SPEED |        | 1178 | 2348         | PUBLISHED  |
| 4/140A.B(ALT)  |       | .0405 | 0A172    | 12*15*75 - 01*13*76 |               | 120/210       | 122  | RI 7X11-FT     | LOW SPEED |        | 752  | 2294         | PUBLISHED  |
| 4/140A.B(ALT)  |       | .0405 | 0A176    | 3*29*76 - 04*15*76  |               | 60/ 83        | 113  | RI 7X11-FT     | LOW SPEED |        | 754  | 2314         | PUBLISHED  |
| 4/140A.B/747   |       | .0405 | CA17     | 6*21*76 - 07*02*76  |               | 152/152       | 261  | UNIV. OF WASH. | LOW SPEED |        | 1184 | 2349         | PUBLISHED  |

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OF POOR QUALITY

# PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 44

| REF.            | MODEL | SCALE | TEST NO.            | SCHED.  | TESTING | HOURS EST/CHG                | RUNS | FACILITY | WIND      | TUNNEL | NO. | DOCUMENT NO. | STATUS |
|-----------------|-------|-------|---------------------|---------|---------|------------------------------|------|----------|-----------|--------|-----|--------------|--------|
| 140C/REMOTE ELE | .0150 | LA62  | 5*14*75 - 05*23*75  | 40/ 80  | 301     | LARC 8-FT TRANSONIC PRESSURE | 717  | 2264     | PUBLISHED |        |     |              |        |
| 140C/REMOTE ELE | .0150 | LA67  | 6*20*75 - 07*02*75  | 40/120  | 131     | LTV 4X4-FT SUPERSONIC        | 552  | 2266     | PUBLISHED |        |     |              |        |
| 140C/REMOTE ELE | .0150 | LA63A | 7*18*75 - 07*18*75  | 40/ 14  | 63      | LARC UNITARY PLAN            | 1118 | 2270     | PUBLISHED |        |     |              |        |
| 140C/REMOTE ELE | .0150 | LA70  | 7*28*75 - 08*06*75  | 38/ 60  | 299     | CALSPAN 8-FT TRANSONIC       | 103  | 2269     | PUBLISHED |        |     |              |        |
| 140C/REMOTE ELE | .0150 | LA61A | 8*25*75 - 09*10*75  | 40/ 40  | 138     | LARC LOW TURBULANCE PRESSURE | 219  | 2278     | CANCEL    |        |     |              |        |
| 140C/REMOTE ELE | .0150 | LA63B | 9*12*75 - 09*17*75  | 40/ 38  | 191     | LARC UNITARY PLAN            | 1151 | 2279     | PUBLISHED |        |     |              |        |
| 140C/REMOTE ELE | .0150 | LA66  | 10*20*75 - 10*24*75 | 80/ 80  | 26      | ARC 12-FT PRESSURE           | 135  | 2281     | PUBLISHED |        |     |              |        |
| 140C/REMOTE ELE | .0150 | LA61B | 1* 5*76 - 01*14*76  | 40/ 96  | 81      | LARC LOW TURBULANCE PRESSURE | 228  | 2300     | PUBLISHED |        |     |              |        |
| 140C/REMOTE ELE | .0150 | LA75  | 2*25*76 - 03*06*76  | 48/128  | 141     | LTV 4X4-FT SUPERSONIC        | 573  | 2305     | PUBLISHED |        |     |              |        |
| 140C/REMOTE ELE | .0150 | LA75  | 4* 6*76 - 04*16*76  | 90/ 90  | 283     | LARC UNITARY PLAN            | 1173 | 2318     | PUBLISHED |        |     |              |        |
| 140C/REMOTE ELE | .0150 | LA77  | 7* 9*76 - 07*24*76  | 120/151 | 521     | ARC 11-FT TRANSONIC          | 200  | 2344     | PUBLISHED |        |     |              |        |
| 140C/REMOTE ELE | .0150 | LA91  | 9* 3*76 - 09*15*76  | 80/104  | 214     | LARC 8-FT TRANSONIC PRESSURE | 758  | 2352     | PUBLISHED |        |     |              |        |
| 140C/REMOTE ELE | .0150 | LA101 | 5*18*77 - 05*24*77  | 55/ 55  | 200     | LARC UNITARY PLAN            | 1194 | 2390     | PUBLISHED |        |     |              |        |
| 140C SILTS      | .0150 | LA111 | 8* 3*77 - 08*05*77  | 95/ 40  | 95      | LARC 8-FT TRANSONIC PRESSURE | 786  | 2395     | PUBLISHED |        |     |              |        |
| 140C SILTS      | .0150 | LA110 | 8* 8*77 - 08*10*77  | 30/ 30  | 60      | LARC UNITARY PLAN            | 1212 | 2396     | PUBLISHED |        |     |              |        |
| 140C SILTS      | .0150 | LA114 | 8*23*77 - 08*31*77  | 30/ 60  | 70      | LARC UNITARY PLAN            | 1217 | 2399     | PUBLISHED |        |     |              |        |
| 140C/REMOTE ELE | .0150 | LA115 | 2* 1*78 - 02*06*78  | 45/ 45  | 175     | LARC 8-FT TRANSONIC PRESSURE | 803  | 2409     | PUBLISHED |        |     |              |        |

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## PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 45.

| REF.          | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY       | WIND    | TUNNEL     | NO.  | DOCUMENT NO. | STATUS     |
|---------------|-------|-------|----------|---------------------|---------------|---------------|------|----------------|---------|------------|------|--------------|------------|
| 140A.B/747    |       | .0300 | CA5      | 9*20*74 - 09*30*74  |               | 144/181       | 520  | THE BOEING CO. | -       | TRANSONIC  | 1431 | 2211         | PUBLISHED  |
| 140A.B/747    |       | .0300 | CA20     | 10* 9*74 - 10*15*74 |               | 115/115       | 288  | THE BOEING CO. | -       | TRANSONIC  | 1431 | 2217         | PUBLISHED  |
| 140A.B (MOD)  |       | .0300 | OA161A   | 3*10*75 - 03*20*75  |               | 140/160       | 285  | ARC 11-FT      |         | TRANSONIC  | 094  | 2245         | PUBLISHED  |
| 140A.B (MOD)  |       | .0300 | OA161B   | 3*20*75 - 03*26*75  |               | 24/ 30        | 49   | ARC 9X7-FT     |         | SUPERSONIC | 094  | 2245         | PUBLISHED  |
| 140A.B (MOD)  |       | .0300 | OA161C   | 3*26*75 - 03*31*75  |               | 20/ 22        | 45   | ARC 8X7-FT     |         | SUPERSONIC | 094  | 2245         | PUBLISHED  |
| 140A.B/747    |       | .0300 | CA6      | 5*20*75 - 06*06*75  |               | 200/265       | 509  | THE BOEING CO. | -       | TRANSONIC  | 1472 | 2262         | PUBLISHED  |
| 140A.B/747    |       | .0300 | CS2      | 6* 9*75 - 06*16*75  |               | 95/ 95        | 165  | THE BOEING CO. | -       | TRANSONIC  | 1474 |              | UNASSIGNED |
| 140A.B/(ALT)  |       | .0300 | OA159    | 6*23*75 - 07*08*75  |               | 160/152       | 50   | ARC 12-FT      |         | PRESSURE   | 078  | 2265         | PUBLISHED  |
| 140A.B/747    |       | .0300 | CA16     | 8*23*75 - 09*05*75  |               | 72/ 84        | 60   | TEXAS A+M      | 7X10-FT | LOW SPEED  | 7515 |              | UNASSIGNED |
| 140A.B/747    |       | .0300 | CS4      | 9*29*75 - 10*02*75  |               | 40/ 64        | 95   | THE BOEING CO. | -       | TRANSONIC  | 1490 | 2341         | PUBLISHED  |
| 140A.B/747    |       | .0300 | CS5      | 11* 3*75 - 11*05*75 |               | 24/ 33        | 192  | THE BOEING CO. | -       | TRANSONIC  | 1493 | 2341         | PUBLISHED  |
| 140A.B/747    |       | .0300 | CA14     | 11*13*75 - 12*02*75 |               | 160/236       | 850  | THE BOEING CO. | -       | TRANSONIC  | 1496 | 2307         | PUBLISHED  |
| 140C(ALT)     |       | .0300 | OA173    | 3*15*76 - 03*26*76  |               | 160/256       | 48   | ARC 12-FT      |         | PRESSURE   | 180  | 2304         | PUBLISHED  |
| 140C(ALT)/747 |       | .0300 | CA13     | 6* 8*76 - 07*01*76  |               | 160/193       | 54   | ARC 14-FT      |         | TRANSONIC  | 121  | 2332         | PUBLISHED  |
| 140C(ALT)     |       | .0300 | OA250    | 7* 1*77 - 07*07*77  |               | 32/ 34        | 23   | RI             | 7X11-FT | LOW SPEED  | 775  | 2392         | PUBLISHED  |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 46

| REF.          | MODEL | SCALE | TEST NO. | SCHED.             | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY    | WIND      | TUNNEL  | NO.  | NO.  | DOCUMENT STATUS |
|---------------|-------|-------|----------|--------------------|---------------|---------------|------|-------------|-----------|---------|------|------|-----------------|
| 3/139, 139A   |       | .0060 | OH42A    | 5*14*73 - 05*16*73 |               | 20/ 20        | 20   | LARC MACH 8 | VARIABLE  | DENSITY | 4080 | 2104 | PUBLISHED       |
| 3/139, 139A   |       | .0060 | OH42B    | 5*25*73 - 06*01*73 |               | 40/ 48        | 64   | LARC MACH 8 | VARIABLE  | DENSITY | 4080 | 2101 | PUBLISHED       |
| 3/139A, W/CAN |       | .0060 | OH42C    | 6*14*73 - 06*15*73 |               | 20/ 16        | 26   | LARC MACH 8 | VARIABLE  | DENSITY | 4080 | 2101 | PUBLISHED       |
| 3/139B        |       | .0060 | OH51-2   | 6*26*74 - 07*03*74 |               | 12/180        | 280  | LARC 31-IN  | CONT-FLOW | HYP.    | 112  | 2368 | PUBLISHED       |



PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 47

| REF.           | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY                   | WIND | TUNNEL | NO.  | NO.  | DOCUMENT STATUS |
|----------------|-------|-------|----------|---------------------|---------------|---------------|------|----------------------------|------|--------|------|------|-----------------|
| 4/140A.B       |       | .0300 | IA14A    | 9* 4*73 - 09*13*73  |               | 130/151       | 149  | ARC 11-FT TRANSONIC        |      |        | 716  | 2084 | PUBLISHED       |
| 4/140A.B       |       | .0300 | DA22A    | 9*12*73 - 09*14*73  |               | 20/ 21        | 24   | ARC 11-FT TRANSONIC        |      |        | 716  | 2130 | PUBLISHED       |
| 4/140A.B       |       | .0300 | IA14B    | 9*14*73 - 09*19*73  |               | 48/ 41        | 66   | ARC 9X7-FT SUPERSONIC      |      |        | 716  | 2129 | PUBLISHED       |
| 4/140A.B       |       | .0300 | DA22B    | 9*19*73 - 09*20*73  |               | 40/ 31        | 30   | ARC 9X7-FT SUPERSONIC      |      |        | 716  | 2131 | PUBLISHED       |
| 4/140A.B       |       | .0300 | DA53B    | 11*12*73 - 11*16*73 |               | 60/160        | 103  | ARC 9X7-FT SUPERSONIC      |      |        | 747  | 2178 | PUBLISHED       |
| 4/140A.B       |       | .0300 | DA53A    | 11*19*73 - 11*27*73 |               | 128/128       | 267  | ARC 11-FT TRANSONIC        |      |        | 747  | 2128 | PUBLISHED       |
| 4/140A.B       |       | .0300 | DA53C    | 11*28*73 - 12*06*73 |               | 60/159        | 159  | ARC 8X7-FT SUPERSONIC      |      |        | 747  | 2185 | PUBLISHED       |
| 4/140A.B       |       | .0300 | DA37     | 1* 7*74 - 01*25*74  |               | 80/103        | 112  | RI 7X11-FT LOW SPEED       |      |        | 719  | 2140 | PUBLISHED       |
| 4/140A.B (MOD) |       | .0300 | IA81A    | 7*26*74 - 08*27*74  |               | 84/184        | 99   | ARC 11-FT TRANSONIC        |      |        | 019  | 2169 | PUBLISHED       |
| 4/140A.B (MOD) |       | .0300 | IA81B    | 8* 9*74 - 08*22*74  |               | 60/208        | 88   | ARC 9X7-FT SUPERSONIC      |      |        | 019  | 2194 | PUBLISHED       |
| 4/140A.B (MOD) |       | .0300 | DA155    | 2*10*75 - 03*07*75  |               | 80/152        | 205  | LARC V/STOL                |      |        | 114  | 2237 | IN PROGRESS     |
| 4/140A.B (MOD) |       | .0300 | DA148    | 5* 5*75 - 05*17*75  |               | 220/264       | 474  | ARC 11-FT TRANSONIC        |      |        | 073  | 2254 | PUBLISHED       |
| 4/140A.B/747   |       | .0300 | CA9      | 6*25*75 - 07*14*75  |               | 320/302       | 85   | THE BOEING CO. - TRANSONIC |      |        | 1477 | 2268 | PUBLISHED       |
| 4/140A.B (MOD) |       | .0300 | IA135A   | 3* 2*76 - 03*23*76  |               | 120/146       | 132  | ARC 11-FT TRANSONIC        |      |        | 144  | 2306 | PUBLISHED       |
| 4/140A.B (MOD) |       | .0300 | IA135B   | 3* 5*76 - 03*23*76  |               | 60/100        | 50   | ARC 9X7-FT SUPERSONIC      |      |        | 144  | 2306 | PUBLISHED       |
| 4/140A.B (MOD) |       | .0300 | IA135C   | 3*12*76 - 03*23*76  |               | 20/ 40        | 5    | ARC 8X7-FT SUPERSONIC      |      |        | 144  | 2306 | PUBLISHED       |
| 140A.B (ALT)   |       | .0300 | DA175    | 6*28*76 - 07*09*76  |               | 160/240       | 290  | ARC 11-FT TRANSONIC        |      |        | 187  | 2333 | PUBLISHED       |
| 5/140C         |       | .0300 | DA149B   | 2* 2*77 - 02*07*77  |               | 40/168        | 201  | ARC 9X7-FT SUPERSONIC      |      |        | 115  | 2370 | PUBLISHED       |
| 5/140C         |       | .0300 | DA149C   | 2*16*77 - 02*18*77  |               | 40/144        | 25   | ARC 8X7-FT SUPERSONIC      |      |        | 115  | 2370 | PUBLISHED       |
| 5/140C         |       | .0300 | DA149A   | 2*24*77 - 03*04*77  |               | 160/144       | 390  | ARC 11-FT TRANSONIC        |      |        | 115  | 2376 | PUBLISHED       |
| 5/140C         |       | .0300 | IA105A   | 9* 2*77 - 11*20*77  |               | 290/281       | 885  | AEDC 16-FT TRANSONIC       |      |        | 470  | 2398 | PUBLISHED       |
| 5/140C         |       | .0300 | IA105B   | 1* 9*78 - 02*01*78  |               | 100/258       | 143  | ARC 9X7-FT SUPERSONIC      |      |        | 242  | 2413 | PUBLISHED       |
| 5/140C         |       | .0300 | DA126B   | 4*17*78 - 04*30*78  |               | 120/ 97       | 256  | ARC 9X7-FT SUPERSONIC      |      |        | 289  | 2424 | PUBLISHED       |
| 5/140C         |       | .0300 | DA126A   | 5* 1*78 - 05*30*78  |               | 240/131       | 304  | ARC 11-FT TRANSONIC        |      |        | 289  | 2424 | PUBLISHED       |

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|        |       |        |                     |         |     |                       |     |      |            |
|--------|-------|--------|---------------------|---------|-----|-----------------------|-----|------|------------|
| VEH102 | .0300 | 0A129  | 7* 7*78 - 07*15*78  | 40/ 64  | 477 | AEDC 16-FT TRANSONIC  | 507 | 2434 | PUBLISHED  |
| 5/140C | .0300 | 1A182  | 9*19*78 - 09*20*78  | 12/ 24  | 87  | AEDC 16-FT TRANSONIC  | 517 | 2439 | PUBLISHED  |
| 5/140C | .0300 | 0A146  | 11*28*78 - 12*07*78 | 80/116  | 30  | ARC 8X7-FT SUPERSONIC | 318 | 2445 | PUBLISHED  |
| 5/140C | .0300 | 0A126C | 12* 8*78 - 12*22*78 | 80/ 56  | 134 | ARC 8X7-FT SUPERSONIC | 289 | 2424 | PUBLISHED  |
| 5/140C | .0300 | 1A184  | 4* 2*79 - 04*13*79  | 24/ 40  | 115 | ARC 9X7-FT SUPERSONIC | 347 | 2456 | PUBLISHED  |
| 5/140C | .0300 | 1A190A | 2* 7*80 - 02*21*80  | 160/168 | 166 | ARC 11-FT TRANSONIC   | 411 | 2476 | IN PROCESS |
| 5/140C | .0300 | 0A400  | 4*23*80 - 05*02*80  | 120/120 | 200 | ARC 11-FT TRANSONIC   | 427 | 2482 | PUBLISHED  |
| 5/140C | .0300 | 1A190B | 5*20*80 - 02*21*80  | 120/104 | 294 | ARC 9X7-FT SUPERSONIC | 411 | 2476 | IN PROCESS |

AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 48

| REF.          | MODEL | SCALE | TEST NO. | SCHED.    | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY   | WIND       | TUNNEL | NO. | NO.  | DOCUMENT STATUS |
|---------------|-------|-------|----------|-----------|---------------|---------------|------|------------|------------|--------|-----|------|-----------------|
| 140C(MOD)/747 |       | .0125 | CA23A    | 3*21*75 - | 04*17*75      | 120/213       | 71   | ARC 14-FT  | TRANSONIC  |        | 085 | 2243 | PUBLISHED       |
| 140C(MOD)/747 |       | .0125 | CA23B    | 5* 1*75 - | 07*22*75      | 160/132       | 46   | ARC 14-FT  | TRANSONIC  |        | 085 | 2275 | PUBLISHED       |
| 140C(MOD)/747 |       | .0125 | CA26     | 8* 4*75 - | 08*15*75      | 94/ 95        | 131  | LTV 4X4-FT | SUPERSONIC |        | 559 | 2273 | PUBLISHED       |

AUG 01, 1984

## PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 49

| REF.          | MODEL | SCALE | TEST NO. | SCHED.              | TESTING | HOURS EST/CHG | RUNS | FACILITY                     | WIND | TUNNEL | NO.  | DOCUMENT NO. | STATUS     |
|---------------|-------|-------|----------|---------------------|---------|---------------|------|------------------------------|------|--------|------|--------------|------------|
| 3A/140A       |       | .0150 | 0A68     | 6*20*73 - 6*29*73   |         | 60/ 60        | 44   | RI 7-FT TRISONIC             |      |        | 276  | 2061         | PUBLISHED  |
| 3A/140A       |       | .0150 | 0A23-1   | 7*19*73 - 07*31*73  |         | 80/ 54        | 23   | ARC 3.5-FT HYPERSONIC        |      |        | 168  | 2071         | PUBLISHED  |
| 4/140A.B      |       | .0150 | 0A20A    | 9*10*73 - 09*13*73  |         | 50/ 40        | 29   | LARC UNITARY PLAN            |      |        | 1057 | 2083         | PUBLISHED  |
| 4/140A.B      |       | .0150 | 0A25     | 9*14*73 - 09*21*73  |         | 80/ 88        | 156  | LARC 8-FT TRANSONIC PRESSURE |      |        | 661  | 2089         | PUBLISHED  |
| 4/140A.B      |       | .0150 | 0A87     | 10*15*73 - 10*23*73 |         | 80/ 80        | 30   | ARC 3.5-FT HYPERSONIC        |      |        | 176  | 2115         | PUBLISHED  |
| 4/140A/B      |       | .0150 | 0A91     | 10*26*73 - 11*01*73 |         | 40/ 40        | 38   | RI 7-FT TRISONIC             |      |        | 278  | 2116         | PUBLISHED  |
| 4/140A.B      |       | .0150 | 0A20C    | 11* 5*73 - 11*08*73 |         | 40/ 35        | 19   | LARC UNITARY PLAN            |      |        | 1057 | 2147         | PUBLISHED  |
| 4/140A.B      |       | .0150 | 0A77     | 11*27*73 - 12*01*73 |         | 40/ 32        | 124  | AEDC B / HYPERSONIC          |      |        | 474  | 2134         | PUBLISHED  |
| 4/140A.B      |       | .0150 | 0A78     | 12* 3*73 - 12*04*73 |         | 20/ 16        | 56   | AEDC C / HYPERSONIC          |      |        | 474  | 2134         | PUBLISHED  |
| 4/140A.B      |       | .0150 | 0A84     | 12*10*73 - 12*14*73 |         | 80/115        | 207  | LTV 4X4-FT SUPERSONIC        |      |        | 488  | 2037         | PUBLISHED  |
| 4/140A.B      |       | .0150 | AA1A     | 2*12*74 - 02*25*74  |         | 64/ 64        | 28   | ARC 3.5-FT HYPERSONIC        |      |        | 186  |              | UNASSIGNED |
| 4/140A.B      |       | .0150 | 0A36     | 2*25*74 - 03*01*74  |         | 80/ 80        | 38   | ARC 3.5-FT HYPERSONIC        |      |        | 187  | 2162         | PUBLISHED  |
| 4/140A.B      |       | .0150 | 0A59     | 3*13*74 - 3*21*74   |         | 120/293       | 150  | ARC 6X6-FT SUPERSONIC        |      |        | 709  | 2159         | PUBLISHED  |
| 4/140A/B      |       | .0150 | 0A98     | 3*27*74 - 04*03*74  |         | 80/128        | 46   | ARC 3.5-FT HYPERSONIC        |      |        | 190  | 2167         | PUBLISHED  |
| 4/140A.B      |       | .0150 | AA1B     | 4* 4*74 - 04*06*74  |         | 64/ 64        | 13   | ARC 3.5-FT HYPERSONIC        |      |        | 186  |              | UNASSIGNED |
| 4/140A.B      |       | .0150 | 0A20B    | 4* 8*74 - 04*12*74  |         | 50/ 43        | 30   | LARC UNITARY PLAN            |      |        | 1097 | 2163         | PUBLISHED  |
| 4/140A.B      |       | .0150 | IA70     | 5* 3*74 - 05*24*74  |         | 80/161        | 173  | RI 7-FT TRISONIC             |      |        | 282  | 2175         | PUBLISHED  |
| 4/140A.B      |       | .0150 | 0A116    | 6*10*74 - 06*14*74  |         | 80/ 80        | 81   | LARC 8-FT TRANSONIC PRESSURE |      |        | 686  | 2186         | PUBLISHED  |
| 4/140A.B      |       | .0150 | IA110-1  | 7* 8*74 - 07*11*74  |         | 50/ 60        | 79   | ARC 9X7-FT SUPERSONIC        |      |        | 052  | 2189         | PUBLISHED  |
| 4/140A.B(MOD) |       | .0150 | 0A115A   | 7*29*74 - 07*31*74  |         | 24/ 28        | 82   | AEDC A / SUPERSONIC          |      |        | 71A  | 2198         | PUBLISHED  |
| 4/140A.B(MOD) |       | .0150 | 0A79     | 8* 1*74 - 08*03*74  |         | 24/ 23        | 79   | AEDC B / HYPERSONIC          |      |        | 71A  | 2196         | PUBLISHED  |

# PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 50

| REF.    | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY    | WIND                | TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|---------|-------|-------|----------|---------------------|---------------|---------------|------|-------------|---------------------|--------|-----|--------------|-----------|
| 3A/139B |       | 0060  | 0H14     | 10-17-73 - 10-18-73 |               | 16/ 16        | 29   | LARC MACH 8 | VARIABLE DENSITY    |        | 648 | 2117         | PUBLISHED |
| 3A/139B |       | 0060  | 0H45     | 11- 2-73 - 11-09-73 |               | 40/ 46        | 22   | LARC 20-IN  | FREDN               |        | 121 | 2105         | PUBLISHED |
| 2A/089B |       | 0060  | 1H19A    | 12-14-73 - 12-26-73 |               | 40/ 40        | 22   | LARC        | HYPERSONIC NITROGEN |        | 28  | 2157         | PUBLISHED |
| 2A/089B |       | 0060  | 1H19B    | 12-27-73 - 01-08-74 |               | 20/ 40        | 22   | LARC        | HYPERSONIC NITROGEN |        | 28  | 2157         | PUBLISHED |
| 2A/089B |       | 0060  | 1H28-2   | 5-20-74 - 05-24-74  |               | 30/ 38        | 15   | ARC         | 3.5-FT HYPERSONIC   |        | 195 | 2180         | PUBLISHED |
| 2A/089B |       | 0060  | 1H28-1   | 5-20-74 - 05-24-74  |               | 80/ 50        | 24   | ARC         | 3.5-FT HYPERSONIC   |        | 195 | 2180         | PUBLISHED |
| 5/140C  |       | 0060  | 1H73     | 12- 1-77 - 01-23-78 |               | 160/160       | 0    | ARC         | 3.5-FT HYPERSONIC   |        | 233 | 2407         | PUBLISHED |

AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 51

| REF.     | MODEL | SCALE | TEST NO. | SCHED.              | TESTING | HOURS EST/CHG | RUNS | FACILITY | WIND             | TUNNEL | NO.  | NO.  | DOCUMENT STATUS |
|----------|-------|-------|----------|---------------------|---------|---------------|------|----------|------------------|--------|------|------|-----------------|
| 4/140A.B |       | .0100 | 0A81     | 11*28*73 - 12*28*73 |         | 104/ 94       | 48   | AEDC F / | HYPERSONIC       |        | 489  | 2152 | PUBLISHED       |
| 4/140A.B |       | .0100 | 0A113    | 8*10*74 - 10*04*74  |         | 24/336        | 108  | CALSPAN  | HYPERSONIC SHOCK |        | 184- | 2234 | PUBLISHED       |
| 4/140A.B |       | .0100 | 0A93     | 11*18*74 - 11*23*74 |         | 80/152        | 15   | CALSPAN  | HYPERSONIC SHOCK |        | 737  | 2238 | PUBLISHED       |
| 4/140A.B |       | .0100 | 0A160    | 2* 5*75 - 02*08*75  |         | 12/ 12        | 14   | AEDC F / | HYPERSONIC       |        | 28A  | 2247 | PUBLISHED       |

AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 52

| REF.   | MODEL | SCALE | TEST NO. | SCHED.             | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY   | WIND       | TUNNEL | NO.  | DOCUMENT NO. | STATUS    |
|--------|-------|-------|----------|--------------------|---------------|---------------|------|------------|------------|--------|------|--------------|-----------|
| 3/139  | 089B  | .0100 | 1A61B    | 2*26*74 - 02*26*74 |               | 8/ 8          | 9    | AEDC A /   | SUPERSONIC |        | 21AA | 2226         | PUBLISHED |
| 3/139B |       | .0100 | 1A17A    | 3* 6*74 - 03*15*74 |               | 40/ 45        | 997  | AEDC B /   | HYPERSONIC |        | 422  | 2156         | PUBLISHED |
| 3/139B |       | .0100 | 1A17B    | 3*18*74 - 03*19*74 |               | 8/ 8          | 13   | AEDC B /   | HYPERSONIC |        | 422  | 2230         | PUBLISHED |
| 3/139B |       | .0100 | 1A18     | 4* 9*74 - 04*12*74 |               | 60/ 64        | 26   | ARC 3.5-FT | HYPERSONIC |        | 191  | 2160         | PUBLISHED |
| 3/139B |       | .0100 | 1A87     | 7*18*74 - 07*20*74 |               | 24/ 23        | 90   | AEDC A /   | SUPERSONIC |        | 60A  | 2192         | PUBLISHED |
| 3/139B |       | .0100 | 1A111    | 3*21*75 - 03*28*75 |               | 36/ 33        | ***  | AEDC A /   | SUPERSONIC |        | A3A  | 2242         | PUBLISHED |
| 5/140C |       | .0100 | 1A114    | 8*18*75 - 08*22*75 |               | 42/ 56        | 100  | AEDC B /   | HYPERSONIC |        | C4A  | 2272         | PUBLISHED |

AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 53

| REF.       | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY              | WIND TUNNEL | NO. | NO.  | DOCUMENT STATUS |
|------------|-------|-------|----------|---------------------|---------------|---------------|------|-----------------------|-------------|-----|------|-----------------|
| FLAT PLATE |       | .1110 | OH15     | 9*12*73 - 09*20*73  |               | 64/ 96        | 32   | ARC 3.5-FT HYPERSONIC |             | 173 | 2385 | PUBLISHED       |
| FLAT PLATE |       | .1110 | OH44     | 10*24*73 - 10*30*73 |               | 80/ 80        | 46   | ARC 3.5-FT HYPERSONIC |             | 177 | 2386 | PUBLISHED       |



AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 54

| REF.   | MODEL | SCALE | TEST NO. | SCHED.             | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY                     | WIND TUNNEL | NO. | NO.  | DOCUMENT STATUS |
|--------|-------|-------|----------|--------------------|---------------|---------------|------|------------------------------|-------------|-----|------|-----------------|
| 4/140B |       | 1400  | 056      | 9* 2*74 - 09*12*74 |               | 120/104       | 27   | LARC 16-FT TRANSONIC DYNAMIC |             | 246 | 2365 | PUBLISHED       |

AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 55.

| REF.     | MODEL | SCALE | TEST NO. | SCHED.             | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY                     | WIND TUNNEL | NO. | NO.  | DOCUMENT STATUS |
|----------|-------|-------|----------|--------------------|---------------|---------------|------|------------------------------|-------------|-----|------|-----------------|
| 4/140B   |       | 1400  | 057      | 8*12*74 - 08*30*74 |               | 120/120       | 30   | LARC 16-FT TRANSONIC DYNAMIC |             | 246 | 2363 | PUBLISHED       |
| 4/140A.B |       | 1400  | 0522     | 4* 7*75 - 04*10*75 |               | 80/ 58        | 16   | LARC 16-FT TRANSONIC DYNAMIC |             | 258 |      | UNASSIGNED      |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 56

| REF.   | MODEL | SCALE | TEST NO. | SCHED.   | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY   | WIND       | TUNNEL | ND. | DOCUMENT ND. | STATUS     |
|--------|-------|-------|----------|----------|---------------|---------------|------|------------|------------|--------|-----|--------------|------------|
| 5/140C |       | .0175 | OH25B    | 1*30*75  | - 02*03*75    | 24/ 23        | 153  | AEDC B /   | HYPERSONIC |        | 83A | 2366         | PUBLISHED  |
| 5/140C |       | .0175 | OH74     | 6* 3*75  | - 06*12*75    | 12/ 12        | 0    | AEDC B /   | HYPERSONIC |        | 87A | 2263         | PUBLISHED  |
| 5/140C |       | .0175 | IH42     | 4*26*76  | - 05*26*76    | 192/218       | 57   | ARC 3.5-FT | HYPERSONIC |        | 217 |              | UNASSIGNED |
| 5/140C |       | .0175 | OH102A   | 10*25*78 | - 11*29*78    | 8/ 13         | 0    | AEDC B /   | HYPERSONIC |        | B65 | 2455         | PUBLISHED  |
| 5/140C |       | .0175 | IH102-2  | 5* 1*79  | - 06*01*79    | 12/ 12        | 0    | AEDC A /   | SUPERSONIC |        | B67 | 2464         | PUBLISHED  |
| 5/140C |       | .0175 | IH103-2  | 10*15*79 | - 11*01*79    | 100/100       | 0    | ARC 3.5-FT | HYPERSONIC |        | 245 | 2467         | PUBLISHED  |
| 5/140C |       | .0175 | OH109    | 10*27*80 | - 11*24*80    | 48/ 40        | 0    | A-DC B /   | HYPERSONIC |        | G9  | 2490         | PUBLISHED  |

AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 57

| REF           | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY             | WIND | TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|---------------|-------|-------|----------|---------------------|---------------|---------------|------|----------------------|------|--------|-----|--------------|-----------|
| VEH 101 (ADS) |       | 1000  | 0A220    | 11*11*75 - 11*21*75 |               | 120/110       | 142  | ARC 14-FT TRANSONIC  |      |        | 150 | 2286         | PUBLISHED |
| VEH 102 (ADS) |       | 1000  | 0A224    | 2*23*76 - 03*24*76  |               | 80/304        | 25   | LARC 16-FT TRANSONIC |      |        | 312 | 2329         | PUBLISHED |
| VEH 102 (ADS) |       | 1000  | 0A228    | 5*29*76 - 05*01*76  |               | 16/ 23        | 45   | RI 7X11-FT LOW SPEED |      |        | 757 | 2322         | PUBLISHED |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 58

| REF.       | MODEL | SCALE  | TEST<br>NO. | SCHED.              | TESTING<br>COMPL | HOURS<br>EST/CHG | RUNS | FACILITY   | WIND       | TUNNEL | NO. | DOCUMENT<br>NO. | STATUS    |
|------------|-------|--------|-------------|---------------------|------------------|------------------|------|------------|------------|--------|-----|-----------------|-----------|
| FLAT PLATE |       | 1.0000 | IH51A       | 7*14*77 - 07*27*77  |                  | 80/118           | 62   | ARC 3.5-FT | HYPERSONIC |        | 228 | 2393            | PUBLISHED |
| FLAT PLATE |       | 1.0000 | IH51B       | 7*15*78 - 07*24*78  |                  | 60/ 60           | 0    | ARC 3.5-FT | HYPERSONIC |        | 239 | 2429            | PUBLISHED |
| FLAT PLATE |       | 1.0000 | IH51C       | 12*26*78 - 02*16*79 |                  | 500/632          | 0    | ARC 3.5-FT | HYPERSONIC |        | 241 | 2448            | PUBLISHED |
| FLAT PLATE |       | 1.0000 | IH51D       | 5* 1*79 - 06*00*79  |                  | 240/240          | 0    | ARC 3.5-FT | HYPERSONIC |        | 244 | 2461            | PUBLISHED |

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PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 59

| REF.   | MODEL | SCALE | TEST<br>NO. | SCHED.   | TESTING<br>COMPL | HOURS<br>EST/CHG | RUNS | FACILITY | WIND       | TUNNEL | NO. | NO.  | DOCUMENT<br>STATUS |
|--------|-------|-------|-------------|----------|------------------|------------------|------|----------|------------|--------|-----|------|--------------------|
| 5/140C |       | .0100 | 1H43        | 12*17*75 | - 02*23*76       | 120/250          | 60   | CALSPAN  | HYPERSONIC | SHOCK  | 187 | 2319 | PUBLISHED          |

AUG 01, 1984

## PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 60

| REF.   | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY   | WIND       | TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|--------|-------|-------|----------|---------------------|---------------|---------------|------|------------|------------|--------|-----|--------------|-----------|
| 5/140C |       | .0175 | OH39A    | 11*21*74 - 11*28*74 |               | 84/ 59        | 622  | AEDC B /   | HYPERSONIC |        | 74A | 2241         | PUBLISHED |
| 5/140C |       | .0175 | OH39B    | 1* 8*75 - 01*09*75  |               | 12/ 13        | 80   | AEDC B /   | HYPERSONIC |        | 74A | 2241         | PUBLISHED |
| 5/140C |       | .0175 | IH41A    | 3*31*75 - 5*21*75   |               | 48/ 57        | 318  | AEDC A /   | SUPERSONIC |        | 4A  | 2240         | PUBLISHED |
| 5/140C |       | .0175 | IH48     | 4*17*75 - 05*08*75  |               | 240/256       | 125  | ARC 3.5-FT | HYPERSONIC |        | 211 | 2248         | PUBLISHED |
| 5/140C |       | .0175 | IH41B    | 12*11*75 - 01*09*76 |               | 78/ 80        | 300  | AEDC A /   | SUPERSONIC |        | 4A  | 2295         | PUBLISHED |
| 5/140C |       | .0175 | IH47     | 3* 8*76 - 03*19*76  |               | 40/ 31        | 178  | AEDC A /   | SUPERSONIC |        | J3A | 2312         | PUBLISHED |
| 5/140C |       | .0175 | OH98A    | 6*17*76 - 06*23*76  |               | 43/ 44        | 234  | AEDC B /   | HYPERSONIC |        | J7A | 2340         | PUBLISHED |
| 5/140C |       | .0175 | OH98B    | 7*26*76 - 07*26*76  |               | 20/ 13        | 98   | AEDC B /   | HYPERSONIC |        | J74 | 2340         | PUBLISHED |
| 5/140C |       | .0175 | IH68     | 10*12*76 - 12*08*76 |               | 400/628       | 0    | ARC 3.5-FT | HYPERSONIC |        | 222 | 2357         | PUBLISHED |
| 5/140C |       | .0175 | IH72     | 1* 3*77 - 01*10*77  |               | 60/ 56        | 0    | AEDC A /   | SUPERSONIC |        | K2A | 2372         | PUBLISHED |
| 5/140C |       | .0175 | OH84A-1  | 4*20*77 - 04*21*77  |               | 20/ 16        | 81   | AEDC B /   | HYPERSONIC |        | R4A | 2388         | PUBLISHED |
| 5/140C |       | .0175 | IH90     | 1*30*78 - 03*10*78  |               | 160/116       | 73   | ARC 3.5-FT | HYPERSONIC |        | 234 | 2412         | PUBLISHED |
| 5/140C |       | .0175 | IH85     | 4*19*78 - 04*26*78  |               | 60/ 65        | 337  | AEDC A /   | SUPERSONIC |        | W5  | 2431         | PUBLISHED |
| 5/140C |       | .0175 | OH103B   | 4*27*78 - 04*28*78  |               | 24/ 12        | 53   | AEDC D /   | HYPERSONIC |        | V2C | 2427         | PUBLISHED |
| 5/140C |       | .0175 | OH84B    | 5* 0*79 - 06*00*79  |               | 72/ 72        | 0    | AEDC B /   | HYPERSONIC |        | B67 | 2454         | PUBLISHED |
| 5/140C |       | .0175 | IH102-1  | 5* 1*79 - 06*01*79  |               | 26/ 26        | 0    | AEDC A /   | SUPERSONIC |        | B67 | 2454         | PUBLISHED |
| 5/140C |       | .0175 | OH105A   | 5*15*79 - 06*20*79  |               | 24/ 24        | 0    | AEDC B /   | HYPERSONIC |        | B67 | 2464         | PUBLISHED |
| 5/140C |       | .0175 | OH84C    | 6*15*79 - 06*28*79  |               | 80/ 80        | 0    | ARC 3.5-FT | HYPERSONIC |        | 246 | 2468         | PUBLISHED |
| 5/140C |       | .0175 | OH105B   | 7*23*79 - 08*01*79  |               | 24/180        | 0    | ARC 3.5-FT | HYPERSONIC |        | 247 | 2468         | PUBLISHED |
| 5/140C |       | .0175 | IH103-1  | 10* 1*79 - 11*01*79 |               | 100/100       | 0    | ARC 3.5-FT | HYPERSONIC |        | 245 | 2467         | PUBLISHED |
| 5/140C |       | .0175 | IH104    | 2* 7*80 - 04*17*80  |               | 80/ 80        | 0    | ARC 3.5-FT | HYPERSONIC |        | 250 | 2480         | PUBLISHED |
| 5/140C |       | .0175 | OH110    | 11*17*80 - 01*30*81 |               | 80/200        | 0    | ARC 3.5-FT | HYPERSONIC |        | 253 | 2495         | PUBLISHED |
| 5/140C |       | .0175 | OH111    | 9*24*81 - 09*30*81  |               | 32/ 32        | 0    | AEDC B /   | HYPERSONIC |        | 1C  | 2495         | PUBLISHED |

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OF POOR QUALITY

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AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 61

| REF.   | MODEL | SCALE | TEST NO. | SCHED.             | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY              | WIND TUNNEL | NO. | NO.  | DOCUMENT STATUS |
|--------|-------|-------|----------|--------------------|---------------|---------------|------|-----------------------|-------------|-----|------|-----------------|
| 4/140B |       | .0100 | 0H38     | 6*21*74 - 07*18*74 |               | 160/320       | 91   | ARC 3.5-FT HYPERSONIC |             | 198 | 2171 | PUBLISHED       |



SEP 01, 1982

PHASE C/D WIND TUNNEL TESTING PER FACILITY

MODEL #62 WAS NOT BUILT.....

SEP 01, 1982

PHASE C/D WIND TUNNEL TESTING PER FACILITY

MODEL # 63 WAS NOT BUILT.....

AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 64

| REF.   | MODEL | SCALE | TEST NO. | SCHED.  | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY                  | WIND TUNNEL | NO. | NO.  | DOCUMENT STATUS |
|--------|-------|-------|----------|---------|---------------|---------------|------|---------------------------|-------------|-----|------|-----------------|
| 3/139B |       | .0175 | OH51-1   | 6-26-74 | - 07-03-74    | 24/ 30        | 50   | LARC 31-IN CONT-FLOW HYP. |             | 112 | 2368 | PUBLISHED       |

FEB 08, 1983

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 65

| REF.   | MODEL | SCALE | TEST NO. | SCHED.  | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY | WIND               | TUNNEL | NO.  | NO.  | DOCUMENT STATUS |
|--------|-------|-------|----------|---------|---------------|---------------|------|----------|--------------------|--------|------|------|-----------------|
| 5/140C |       | .0400 | D178     | 7* 2*76 | 11*24*76      | 480/          | 1    | 0        | JSC VAC. CHAMBER A |        | 56-A | 2371 | PUBLISHED       |
| 5/140C |       | .0400 | D179     | 6* 1*78 | 08*24*78      | 288/288       | 0    | 0        | JSC VAC. CHAMBER A |        | 61-A | 2443 | PUBLISHED       |

FEB 08, 1983

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 66

| REF.   | MODEL | SCALE | TEST NO. | SCHED.  | TESTING  | HOURS EST/CHG | RUNS | FACILITY                 | WIND TUNNEL | NO. | NO.  | DOCUMENT STATUS |
|--------|-------|-------|----------|---------|----------|---------------|------|--------------------------|-------------|-----|------|-----------------|
| 5/140C |       | .0250 | 0H66     | 8*30*76 | 10*17*76 | 120/120       | 30   | CALSPAN HYPERSONIC SHOCK |             | 131 | 2359 | PUBLISHED       |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 67

| REF.     | MODEL | SCALE | TEST NO. | SCHED.              | TESTING | HOURS EST/CHG | RUNS | FACILITY                     | WIND | TUNNEL | NO.  | NO.  | DOCUMENT STATUS |
|----------|-------|-------|----------|---------------------|---------|---------------|------|------------------------------|------|--------|------|------|-----------------|
| 4/140A.B |       | .0150 | 1A42A    | 11*27*73 - 12*04*73 |         | 40/ 70        | 62   | LARC UNITARY PLAN            |      |        | 1056 | 2119 | PUBLISHED       |
| 4/140A.B |       | .0150 | 1A41     | 12*11*73 - 12*14*73 |         | 80/ 64        | 86   | LARC 8-FT TRANSONIC PRESSURE |      |        | 667  | 2118 | PUBLISHED       |
| 4/140A.B |       | .0150 | 1A42B    | 12*17*73 - 12*21*73 |         | 60/ 50        | 42   | LARC UNITARY PLAN            |      |        | 1073 | 2119 | PUBLISHED       |
| 4/140A.B |       | .0150 | 1A106    | 12*17*73 - 12*18*73 |         | 20/ 24        | 18   | LARC 8-FT TRANSONIC PRESSURE |      |        | 668  | 2120 | PUBLISHED       |
| 4/140A.B |       | .0150 | 1A69     | 1*10*74 - 01*14*75  |         | 24/ 25        | 14   | RI 7-FT TRANSONIC            |      |        | 280  | 2122 | PUBLISHED       |
| 4/140A.B |       | .0150 | 1A110-2  | 7* 8*74 - 07*11*74  |         | 30/ 20        | 17   | ARC 9X7-FT SUPERSONIC        |      |        | 052  | 2189 | PUBLISHED       |

AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 68

| REF.        | MODEL | SCALE | TEST NO. | SCHED.   | TESTING    | HOURS EST/CHG | RUNS | FACILITY     | WIND       | TUNNEL | NO.  | NO.  | DOCUMENT STATUS |
|-------------|-------|-------|----------|----------|------------|---------------|------|--------------|------------|--------|------|------|-----------------|
| ET FORETANK |       | .0700 | 1A137    | 4-26-76  | - 05-03-76 | 40/ 56        | 43   | ARC 14-FT    | TRANSONIC  |        | 143  | 2316 | PUBLISHED       |
| ET FORETANK |       | .0700 | 1A131B   | 11- 3-78 | - 11-09-78 | 48/ 40        | 0    | ARC 9X7-FT   | SUPERSONIC |        | 283  | 2462 | PUBLISHED       |
| ET FORETANK |       | .0700 | 1A132    | 11-27-78 | - 12-14-78 | 96/ 96        | 0    | AEDC 16-FT   | TRANSONIC  |        | 505  | 2449 | PUBLISHED       |
| ET FORETANK |       | .0700 | 1A131C   | 3- 5-79  | - 03-11-79 | 48/ 40        | 0    | ARC 8X7-FT   | SUPERSONIC |        | 283  | 2462 | PUBLISHED       |
| ET FORETANK |       | .0700 | 1A180    | 3-26-79  | - 03-30-79 | 48/ 53        | 37   | LARC UNITARY | PLAN       |        | 1267 | 2457 | PUBLISHED       |

AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 63

| REF.     | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY                     | WIND | TUNNEL | NO.  | NO.  | DOCUMENT STATUS |
|----------|-------|-------|----------|---------------------|---------------|---------------|------|------------------------------|------|--------|------|------|-----------------|
| 4/140A.B |       | .0150 | LA71B    | 7*21*75 - 07*31*75  |               | 48/ 48        | 30   | LARC UNITARY PLAN            |      |        | 1147 | 2271 | PUBLISHED       |
| 4/140A.B |       | .0150 | LA71A    | 10*17*75 - 10*22*75 |               | 48/ 64        | 15   | LARC UNITARY PLAN            |      |        | 1132 | 2271 | PUBLISHED       |
| 4/140A.B |       | .0150 | LA73A    | 12*18*75 - 12*30*75 |               | 82/ 82        | 1    | LARC LOW TURBULANCE PRESSURE |      |        | 227  | 2298 | PUBLISHED       |
| 4/140A.B |       | .0150 | LA72     | 3*26*76 - 03*31*76  |               | 72/ 72        | 30   | LARC 8-FT TRANSONIC PRESSURE |      |        | 740  | 2309 | PUBLISHED       |
| 4/140A.B |       | .0150 | LA73B    | 12*10*76 - 12*13*75 |               | 16/ 16        | 6    | LARC LOW TURBULANCE PRESSURE |      |        | 238  | 2298 | PUBLISHED       |



AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID: 70

| REF.   | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY     | WIND       | TUNNEL | NO.  | DOCUMENT NO. | STATUS     |
|--------|-------|-------|----------|---------------------|---------------|---------------|------|--------------|------------|--------|------|--------------|------------|
| 5/140C |       | .0125 | 0A169    | 3*26*76 - 04*09*76  |               | 12/ 43        | 200  | AEDC B /     | HYPersonic |        | D8A  | 2320         | PUBLISHED  |
| 5/140C |       | .0125 | 1A22     | 5* 3*76 - 05*08*76  |               | 52/ 49        | 750  | AEDC B /     | HYPersonic |        | 59A  | 2327         | PUBLISHED  |
| 5/140C |       | .0125 | 1A148    | 4*27*77 - 05*03*77  |               | 52/ 52        | 272  | AEDC B /     | HYPersonic |        | TOA  | 2384         | PUBLISHED  |
| 0V102  |       | .0125 | 0A255A   | 10*13*80 - 11*07*80 |               | 240/228       | 268  | LARC UNITARY | PLAN       |        | 1311 | 2498         | PUBLISHED  |
| 0V102  |       | .0125 | 0A255B   | 11* 8*80 - 11*21*80 |               | 240/132       | 100  | LARC UNITARY | PLAN       |        | 1358 | 2498         | PUBLISHED  |
| 0V102  |       | .0125 | 0A255C   | 11*24*80 - 12*15*80 |               | 240/140       | 27   | LARC UNITARY | PLAN       |        | 1315 | 2498         | PUBLISHED  |
| 0V102  |       | .0125 | 0A255D   | 1*12*81 - 02*02*81  |               | 240/160       | 90   | LARC UNITARY | PLAN       |        | 1319 | 2498         | PUBLISHED  |
| 0V102  |       | .0125 | 0A256    | 2* 2*81 - 02*09*81  |               | 80/ 32        | 0    | LARC 16-FT   | TRANSONIC  |        | 352  |              | UNASSIGNED |

SEP 01, 1982

PHASE C/D WIND TUNNEL TESTING PER FACILITY

MODEL # 71 WAS NOT BUILT.....

AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 72

| REF.     | MODEL | SCALE | TEST NO. | TESTING SCHED.      | HOURS EST/CHG | RUNS | FACILITY                     | WIND | TUNNEL | NO.  | DOCUMENT NO. | STATUS     |
|----------|-------|-------|----------|---------------------|---------------|------|------------------------------|------|--------|------|--------------|------------|
| 4/140A.B |       | .0100 | 0A90     | 3* 4*74 - 03*06*74  | 25/ 40        | 43   | LARC 31-IN CONT-FLOW HYP.    |      |        | 110  | 2149         | PUBLISHED  |
| 4/140A.B |       | .0100 | 1A44A    | 8*12*74 - 08*16*74  | 40/ 50        | 27   | LARC UNITARY PLAN            |      |        | 1088 | 2206         | PUBLISHED  |
| 4/140A.B |       | .0100 | 1A44B    | 8*19*74 - 08*23*74  | 40/ 80        | 47   | LARC UNITARY PLAN            |      |        | 1119 | 2206         | PUBLISHED  |
| 4/140A.B |       | .0100 | 1A43     | 8*26*74 - 09*03*74  | 80/ 80        | 105  | LARC 8-FT TRANSONIC PRESSURE |      |        | 693  | 2204         | PUBLISHED  |
| 4/140A.B |       | .0100 | 1A59     | 12*20*74 - 01*07*75 | 96/ 96        | 146  | LARC 8-FT TRANSONIC PRESSURE |      |        | 703  | 2233         | PUBLISHED  |
| 5/140C   |       | .0100 | 1A69     | 4*24*75 - 04*29*75  | 64/ 64        | 98   | LARC 8-FT TRANSONIC PRESSURE |      |        | 714  | 2257         | PUBLISHED  |
| 5/140C   |       | .0100 | 1A141    | 3*31*76 - 04*05*76  | 30/ 30        | 37   | RI 7-FT TRISONIC             |      |        | 297  | 2315         | PUBLISHED  |
| 5/140C   |       | .0100 | 1A94A    | 4*18*76 - 04*23*76  | 40/ 60        | 92   | LARC UNITARY PLAN            |      |        | 1152 | 2323         | PUBLISHED  |
| 5/140C   |       | .0100 | 1A94B    | 4*26*76 - 05*04*76  | 80/ 84        | 144  | LARC UNITARY PLAN            |      |        | 1177 | 2324         | PUBLISHED  |
| 5/140C   |       | .0100 | 1A93     | 5*10*76 - 05*14*76  | 80/ 96        | 255  | LARC 8-FT TRANSONIC PRESSURE |      |        | 749  | 2326         | PUBLISHED  |
| 5/140C   |       | .0100 | 1A144    | 4* 6*77 - 04*15*77  | 160/200       | 514  | ARC 11-FT TRANSONIC          |      |        | 228  | 2377         | PUBLISHED  |
| 5/140C   |       | .0100 | 1A244    | 5*24*77 - 06*01*77  | 80/ 76        | 154  | LARC 8-FT TRANSONIC PRESSURE |      |        | 779  | 2391         | PUBLISHED  |
| 5/140C   |       | .0100 | 1A113    | 8* 5*77 - 09*08*77  | 32/ 28        | 17   | LARC 8-FT TRANSONIC PRESSURE |      |        | 787  | 2397         | PUBLISHED  |
| 5/140C   |       | .0100 | 1A141C   | 6*22*80 - 07*01*80  | 80/ 10        | 0    | LARC 20-IN HYPERSONIC (M=6)  |      |        | 6550 |              | UNASSIGNED |
| VEH 102  |       | .0100 | 0A259    | 2*16*81 - 02*20*81  | 16/ 40        | 137  | AEDC B / HYPERSONIC          |      |        | 14   | 2493         | PUBLISHED  |
| VEH 102  |       | .0100 | 0A257    | 3*12*81 - 04*20*81  | 80/324        | 380  | LARC 20-IN HYPERSONIC (M=6)  |      |        | 6559 | 2466         | PUBLISHED  |
| VEH 102  |       | .0100 | 1A193    | 2*26*82 - 04*31*82  | 72/720        | 0    | AEDC A / SUPERSONIC          |      |        | A1G  |              | UNASSIGNED |

SEP 01, 1962

PHASE C/D WIND TUNNEL TESTING PER FACILITY

MODEL # 73 WAS NOT BUILT.....

AUG 01, 1984

## PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 74

| REF.     | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY | WIND                   | TUNNEL | NO.  | DOCUMENT NO. | STATUS     |
|----------|-------|-------|----------|---------------------|---------------|---------------|------|----------|------------------------|--------|------|--------------|------------|
| 5/140C   |       | .0040 | IA33     | 5* 9*74 - 07*21*74  |               | 256/264       | 270  | MSFC     | 14-IN TRANSONIC        |        | 594  | 2174         | PUBLISHED  |
| 5/140C   |       | .0040 | DA108    | 6*24*74 - 07*09*74  |               | 80/ 80        | 186  | MSFC     | 14-IN TRANSONIC        |        | 599  | 2190         | PUBLISHED  |
| 5/140C   |       | .0040 | DA89     | 7*15*74 - 08*05*74  |               | 60/143        | 32   | LARC     | HYPersonic NITROGEN    |        | 30   | 2214         | PUBLISHED  |
| 5/140C   |       | .0040 | DA109    | 8*26*74 - 08*29*74  |               | 60/ 88        | 32   | LARC     | 22-IN HELIUM           |        | 431  | 2205         | PUBLISHED  |
| 5/140C   |       | .0040 | DA131    | 9*11*74 - 09*26*74  |               | 80/ 96        | 109  | MSFC     | 14-IN TRANSONIC        |        | 607  | 2232         | PUBLISHED  |
| 5/140C   |       | .0040 | IA71A-2  | 12*11*74 - 12*17*74 |               | 20/ 17        | 29   | MSFC     | 14-IN TRANSONIC        |        | 610  | 2227         | PUBLISHED  |
| 5/140C   |       | .0040 | IA71B-2  | 12*19*74 - 01*09*75 |               | 16/ 16        | 41   | MSFC     | 14-IN TRANSONIC        |        | 610  | 2227         | PUBLISHED  |
| 5/140C   |       | .0040 | FA14     | 1* 9*75 - 07*06*75  |               | 60/142        | 0    | MSFC     | 14-IN TRANSONIC        |        | 600  | 2274         | PUBLISHED  |
| 5/140C   |       | .0040 | IA125-1  | 4*25*75 - 05*22*75  |               | 60/ 93        | 137  | MSFC     | 14-IN TRANSONIC        |        | 622  | 2253         | PUBLISHED  |
| 5/140C   |       | .0040 | IA140A   | 6* 1*76 - 08*03*76  |               | 64/222        | 230  | MSFC     | 14-IN TRANSONIC        |        | 641  | 2335         | PUBLISHED  |
| 5/140C   |       | .0040 | IA140B   | 10* 1*76 - 01*28*77 |               | 80/279        | 44   | MSFC     | 14-IN TRANSONIC        |        | 646  | 2335         | PUBLISHED  |
| 5/140C   |       | .0040 | LA124    | 6* 7*77 - 06*10*77  |               | 40/ 40        | 19   | LARC     | UNITARY PLAN           |        | 1207 | 2426         | PUBLISHED  |
| 5/140C   |       | .0040 | IA181    | 12*15*77 - 02*03*78 |               | 120/120       | 111  | MSFC     | 14-IN TRANSONIC        |        | 649  | 2406         | PUBLISHED  |
| 5/140C   |       | .0040 | FA25     | 4*15*78 - 08*01*78  |               | 200/294       | 0    | MSFC     | 14-IN TRANSONIC        |        | 652  | 2437         | PUBLISHED  |
| 5/140C   |       | .0040 | FA26     | 5* 1*78 - 06*01*78  |               | 80/ 80        | 0    | MSFC     | 14-IN TRANSONIC        |        | 653  |              | UNASSIGNED |
| 5/140C   |       | .0040 | FA27     | 3*14*79 - 05*16*79  |               | 150/160       | 0    | MSFC     | 14-IN TRANSONIC        |        | 655  | 2460         | IN PROCESS |
| 5/140C   |       | .0040 | FA29     | 4* 1*79 - 05*00*79  |               | 400/ 0        | 0    | MSFC     | 14-IN TRANSONIC        |        | 657  |              | UNASSIGNED |
| 5/140C   |       | .0040 | FA28     | 8* 1*79 - 09*01*79  |               | 200/ 0        | 0    | MSFC     | 14-IN TRANSONIC        |        | 656  | 2474         | PUBLISHED  |
| VEH. 102 |       | .0040 | LA141A   | 1*12*80 - 02*01*80  |               | 80/148        | 0    | LARC     | 20-IN HYPERSONIC (M=6) |        | 6546 | 2477         | PUBLISHED  |
| VEH. 102 |       | .0040 | LA142    | 2* 1*80 - 03*01*80  |               | 80/ 80        | 0    | LARC     | 20-IN FREON            |        | 390  |              | UNASSIGNED |
| VEH. 102 |       | .0040 | LA141B   | 3*18*80 - 05*01*80  |               | 80/200        | 0    | LARC     | 20-IN HYPERSONIC (M=6) |        | 6546 | 2477         | PUBLISHED  |

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PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 75

| REF.   | MODEL | SCALE | TEST NO. | SCHED.              | TESTING 'COMPL | HOURS EST/CHG | RUNS | FACILITY   | WIND       | TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|--------|-------|-------|----------|---------------------|----------------|---------------|------|------------|------------|--------|-----|--------------|-----------|
| 5/140C |       | .0100 | IA82C    | 11*11*74 - 11*15*74 |                | 80/ 92        | 240  | ARC 8X7-FT | SUPERSONIC |        | 044 | 2219         | PUBLISHED |
| 5/140C |       | .0100 | IA82B    | 1*28*75 - 02*04*75  |                | 70/132        | 286  | ARC 9X7-FT | SUPERSONIC |        | 044 | 2231         | PUBLISHED |
| 5/140C |       | .0100 | IA40     | 6*23*76 - 06*29*76  |                | 26/ 41        | 346  | AEDC A /   | SUPERSONIC |        | 425 | 2293         | PUBLISHED |
| 5/140C |       | .0100 | IA142    | 8*11*76 - 08*18*76  |                | 78/ 64        | ***  | AEDC A /   | SUPERSONIC |        | K1A | 2346         | PUBLISHED |
| 5/140C |       | .0100 | IA143    | 11* 8*76 - 11*13*76 |                | 65/ 58        | ***  | AEDC A /   | SUPERSONIC |        | P8A | 2354         | PUBLISHED |
| 5/140C |       | .0100 | IA138    | 8*21*78 - 09*01*78  |                | 70/112        | 224  | ARC 9X7-FT | SUPERSONIC |        | 246 | 2438         | PUBLISHED |

AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 76

| REF.       | MODEL | SCALE | TEST NO. | SCHED.   | TESTING COMPL. | HOURS EST/CHG | RUNS | FACILITY     | WIND     | TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|------------|-------|-------|----------|----------|----------------|---------------|------|--------------|----------|--------|-----|--------------|-----------|
| OV101(ALT) |       | .3600 | 0A100    | 5*27*75  | - 06*14*75     | 240/272       | 190  | ARC 40X80-FT | SUBSONIC |        | 462 | 2261         | PUBLISHED |
| OV101(ALT) |       | .3600 | 0A164    | 11*28*75 | - 12*01*75     | 80/ 80        | 22   | ARC 40X80-FT | SUBSONIC |        | 473 | 2499         | PUBLISHED |
| OV101(ALT) |       | .3600 | 0A174    | 2* 2*76  | - 02*27*76     | 240/264       | 165  | ARC 40X80-FT | SUBSONIC |        | 479 | 2302         | PUBLISHED |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 77

| REF.         | MODEL | SCALE | TEST NO. | SCHED.   | TESTING  | HOURS EST/CHG | RUNS | FACILITY   | WIND      | TUNNEL | NO. | NO.  | DOCUMENT STATUS |
|--------------|-------|-------|----------|----------|----------|---------------|------|------------|-----------|--------|-----|------|-----------------|
| 5/140C       |       | .0040 | 1A71A-1  | 12*11*74 | 12*17*74 | 20/ 40        | 40   | MSFC 14-IN | TRANSONIC |        | 610 | 2227 | PUBLISHED       |
| 5/140C       |       | .0040 | 1A71B-1  | 12*19*74 | 01*09*75 | 40/ 64        | 90   | MSFC 14-IN | TRANSONIC |        | 610 | 2227 | PUBLISHED       |
| 5/140C(74TS) |       | .0040 | 1A125-2  | 4*25*75  | 05*22*75 | 40/ 30        | 50   | MSFC 14-IN | TRANSONIC |        | 622 | 2253 | PUBLISHED       |



SEP 01, 1982

PHASE C/D WIND TUNNEL TESTING PER FACILITY

MODEL # 78 WAS NOT BUILT.....

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AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 79

| REF.   | MODEL | SCALE | TEST NO. | SCHED.   | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY                     | WIND TUNNEL | NO. | DOCUMENT NO. | STATUS     |
|--------|-------|-------|----------|----------|---------------|---------------|------|------------------------------|-------------|-----|--------------|------------|
| 5/140C |       | .0550 | 0520     | 10*22*75 | - 10*30*75    | 120/120       | 14   | LARC 16-FT TRANSONIC DYNAMIC |             | 266 |              | UNASSIGNED |

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PHASE C/D WIND TUNNEL TESTING PER MODEL

| MODEL ID : 80  |       |       |          |                    |               |               |      |            |           |         |     |              |            |
|----------------|-------|-------|----------|--------------------|---------------|---------------|------|------------|-----------|---------|-----|--------------|------------|
| REF.           | MODEL | SCALE | TEST NO. | SCHED.             | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY   | WIND      | TUNNEL  | NO. | DOCUMENT NO. | STATUS     |
| 5/140C FLUTTER |       | .0550 | DS21     | 5* 8*78 - 05*26*78 |               | 200/120       | 0    | LARC 16-FT | TRANSONIC | DYNAMIC | 300 |              | UNASSIGNED |
| 5/140C FLUTTER |       | .0550 | IS10     | 9*18*78 - 10*08*78 |               | 200/128       | 0    | LARC 16-FT | TRANSONIC | DYNAMIC | 308 |              | UNASSIGNED |

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PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 81

| REF.      | MODEL | SCALE  | TEST NO. | SCHED.  | TESTING    | HOURS EST/CHG | RUNS | FACILITY   | WIND       | TUNNEL | NO. | NO.  | DOCUMENT STATUS |
|-----------|-------|--------|----------|---------|------------|---------------|------|------------|------------|--------|-----|------|-----------------|
| HRSI TILE |       | 1.0000 | DS8A     | 7*11*74 | - 07*18*74 | 60/156        | 96   | ARC 11-FT  | TRANSONIC  |        | 705 | 2179 | PUBLISHED       |
| HRSI TILE |       | 1.0000 | DS8B     | 7*19*74 | - 07*29*74 | 60/120        | 39   | ARC 9X7-FT | SUPERSONIC |        | 705 | 2179 | PUBLISHED       |
| HRSI TILE |       | 1.0000 | DS37     | 5* 7*79 | - 05*11*79 | 60/ 40        | 0    | ARC 9X7-FT | SUPERSONIC |        | 369 | 2458 | PUBLISHED       |
| TILE      |       | 1.0000 | DS55     | 2*23*81 | - 03*02*81 | 80/ 64        | 0    | ARC 9X7-FT | SUPERSONIC |        | 464 | 2465 | PUBLISHED       |
| TILE      |       | 1.0000 | DS57     | 8*26*81 | - 08*27*81 | 8/ 8          | 0    | ARC 9X7-FT | SUPERSONIC |        | 508 | 2465 | PUBLISHED       |

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PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 82

| REF.   | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY   | WIND       | TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|--------|-------|-------|----------|---------------------|---------------|---------------|------|------------|------------|--------|-----|--------------|-----------|
| 5/140C |       | .0400 | 0H50A    | 3*29*74 - 04*11*74  |               | 8/ 16         | 66   | AEDC B /   | HYPERSONIC |        | 526 | 2285         | PUBLISHED |
| 5/140C |       | .0400 | 0H54A    | 10* 4*74 - 10* 8*74 |               | 36/ 32        | 117  | AEDC B /   | HYPERSONIC |        | 82A | 2301         | PUBLISHED |
| 5/140C |       | .0400 | 0H54B    | 7*21*75 - 07*25*75  |               | 48/ 52        | 124  | AEDC B /   | HYPERSONIC |        | 82A | 2342         | PUBLISHED |
| 5/140C |       | .0400 | 0H54C    | 8*26*75 - 09*02*75  |               | 48/ 48        | 120  | AEDC B /   | HYPERSONIC |        | 82A | 2342         | PUBLISHED |
| 5/140C |       | .0400 | 0H75     | 9* 2*75 - 09*03*75  |               | 14/ 13        | 44   | AEDC B /   | HYPERSONIC |        | E3A | 2303         | PUBLISHED |
| 5/140C |       | .0400 | 0H69     | 11*14*75 - 12*11*75 |               | 84/ 87        | 246  | AEDC B /   | HYPERSONIC |        | E9A | 2321         | PUBLISHED |
| 5/140C |       | .0400 | 0H53B    | 4*14*76 - 04*23*76  |               | 40/ 80        | 23   | ARC 3.5-FT | HYPERSONIC |        | 216 | 2317         | PUBLISHED |

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PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 83

| REF.          | MODEL | SCALE | TEST NO. | SCHED.             | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY   | WIND       | TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|---------------|-------|-------|----------|--------------------|---------------|---------------|------|------------|------------|--------|-----|--------------|-----------|
| 5/140C        |       | .0400 | 0H508    | 7*12*74 - 07*17*74 |               | 36/ 27        | 220  | AEDC B /   | HYPERSONIC |        | 58A | 2358         | PUBLISHED |
| 5/140C        |       | .0400 | 0H60     | 5*12*75 - 05*12*75 |               | 12/ 12        | 139  | AEDC B /   | HYPERSONIC |        | B7A | 2356         | PUBLISHED |
| 5/140C        |       | .0400 | 0H53A    | 4* 7*76 - 04*13*76 |               | 40/ 40        | 39   | ARC 3.5-FT | HYPERSONIC |        | 216 | 2317         | PUBLISHED |
| 5/140C        |       | .0400 | 0H84A-2  | 4*20*77 - 04*21*77 |               | 5/ 9          | 16   | AEDC B /   | HYPERSONIC |        | R4A | 2388         | PUBLISHED |
| VEH. 5 F-BODY |       | .0400 | 0H103A   | 2*20*78 - 02*21*78 |               | 12/ 8         | 72   | AEDC B /   | HYPERSONIC |        | V2C | 2420         | PUBLISHED |
| 5/140C        |       | .0400 | 1H102-3  | 5* 1*79 - 06*01*79 |               | 10/ 10        | 0    | AEDC A /   | SUPERSONIC |        | B67 | 2464         | PUBLISHED |

AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 84

| REF.   | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY                 | WIND | TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|--------|-------|-------|----------|---------------------|---------------|---------------|------|--------------------------|------|--------|-----|--------------|-----------|
| 5/140C |       | .0350 | IS2B     | 9*25*75 - 10*29*75  |               | 60/ 60        | 67   | ARC 9X7-FT SUPERSONIC    |      |        | 113 | 2284         | PUBLISHED |
| 5/140C |       | .0350 | IS2A     | 11* 7*75 - 11*14*75 |               | 144/120       | 53   | ARC 11-FT TRANSONIC      |      |        | 113 | 2284         | PUBLISHED |
| 5/140C |       | .0350 | IH11     | 4* 1*78 - 04*18*78  |               | 80/ 64        | 0    | LERC 10X10-FT SUPERSONIC |      |        | 045 | 2428         | PUBLISHED |
| 5/140C |       | .0350 | 0A253    | 7* 1*80 - 07*08*80  |               | 80/ 80        | 139  | AEDC 16-FT TRANSONIC     |      |        | 574 | 2486         | PUBLISHED |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 85.

| REF.      | MODEL | SCALE  | TEST NO. | SCHED.   | TESTING    | HOURS EST/CHG | RUNS | FACILITY   | WIND       | TUNNEL | NO. | DOCUMENT NO. | STATUS     |
|-----------|-------|--------|----------|----------|------------|---------------|------|------------|------------|--------|-----|--------------|------------|
| LRSI TILE |       | 1.0000 | DS13     | 11*24*75 | - 11*26*75 | 16/ 21        | 45   | ARC 9X7-FT | SUPERSONIC |        | 166 | 2287         | IN PROCESS |
| LRSI TILE |       | 1.0000 | DS12     | 1*11*76  | - 01*29*76 | 80/ 40        | 42   | ARC 2X2-FT | TRANSONIC  |        | 116 | 2450         | PUBLISHED  |



SEP 01, 1982

PHASE C/D WIND TUNNEL TESTING PER FACILITY

MODEL # 86 WAS NOT BUILT.....

A-208

SEP 01, 1982

PHASE C/D WIND TUNNEL TESTING PER FACILITY

MODEL # 87 WAS NOT BUILT.....

AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 88

| REF.     | MODEL | SCALE | TEST NO. | SCHED.              | TESTING CO. PL | HOURS EST/CHG | RUNS | FACILITY                | WIND | TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|----------|-------|-------|----------|---------------------|----------------|---------------|------|-------------------------|------|--------|-----|--------------|-----------|
| 5/140C   |       | .0200 | 1A19A    | 9*16*74 - 09*23*74  |                | 156/136       | 201  | ARC 11-FT TRANSONIC     |      |        | 014 | 2170         | PUBLISHED |
| 5/140C   |       | .0200 | 1A80     | 11* 4*74 - 11*08*74 |                | 100/144       | 380  | ARC 11-FT TRANSONIC     |      |        | 023 | 2242         | PUBLISHED |
| 5/140C   |       | .0200 | 1A72     | 5*19*75 - 05*31*75  |                | 120/200       | 176  | ARC 11-FT TRANSONIC     |      |        | 072 | 2258         | PUBLISHED |
| 140C/747 |       | .0200 | 1A80     | 10* 6*75 - 11*07*75 |                | 156/156       | 83   | LARC 7X10-FT HIGH SPEED |      |        | 999 | 2299         | PUBLISHED |
| 5/140C   |       | .0200 | 1A119    | 10* 7*77 - 10*31*77 |                | 170/285       | 620  | ARC 11-FT TRANSONIC     |      |        | 275 | 2404         | PUBLISHED |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : P9

| REF.    | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY   | WIND       | TUNNEL NO. | NO.  | DOCUMENT NO. | STATUS    |
|---------|-------|-------|----------|---------------------|---------------|---------------|------|------------|------------|------------|------|--------------|-----------|
| VEH 102 |       | .0200 | IA156A   | 10*28*77 - 11*10*77 |               | 96/124        | 575  | AEDC 16-FT | TRANSONIC  | 470        | 2403 | 2403         | PUBLISHED |
| VEH 102 |       | .0200 | IA156B   | 12*16*77 - 01*06*78 |               | 100/191       | 177  | ARC 9X7-FT | SUPERSONIC | 272        | 2408 | 2408         | PUBLISHED |
| VEH 102 |       | .0200 | IA183    | 11*15*78 - 11*16*78 |               | 12/ 12        | 40   | AEDC 16-FT | TRANSONIC  | 519        | 2444 | 2444         | PUBLISHED |
| VEH 102 |       | .0200 | LA132    | 10*11*79 - 11*01*79 |               | 40/ 80        | 18   | LARC 16-FT | TRANSONIC  | 341        | 2471 | 2471         | PUBLISHED |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01.1984

MODEL ID : 90

| REF.   | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY                     | WIND TUNNEL | NO.  | NO.  | DOCUMENT STATUS |
|--------|-------|-------|----------|---------------------|---------------|---------------|------|------------------------------|-------------|------|------|-----------------|
| 4/140B |       | .0060 | 0H46     | 11*12*73 - 12*07*73 | 40/ 72        | 100           | 100  | LARC MACH 8 VARIABLE DENSITY |             | 4556 | 2350 | PUBLISHED       |
| 4/140B |       | .0060 | 0H51-3   | 6*26*73 - 07*03*74  | 12/100        | 100           | 100  | LARC 31-IN CONT-FLOW HYP.    |             | 112  | 2368 | PUBLISHED       |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 91

| REF.          | MODEL | SCALE | TEST NO. | SCHED.   | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY | WIND       | TUNNEL | NO. | NO.  | DOCUMENT STATUS |
|---------------|-------|-------|----------|----------|---------------|---------------|------|----------|------------|--------|-----|------|-----------------|
| WING TIP SEAL |       | .0800 | DH56     | 12* 6*77 | 12*10*77      | 48/ 36        | 255  | AEDC B / | HYPERSONIC |        | R3A | 2410 | PUBLISHED       |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01.1984

MODEL ID : 92

| REF. | MODEL | SCALE | TEST NO. | SCHED.     | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY | WIND            | TUNNEL | NO. | NO.  | DOCUMENT STATUS |
|------|-------|-------|----------|------------|---------------|---------------|------|----------|-----------------|--------|-----|------|-----------------|
| 140C |       | .0175 | 0457A    | 10* 6*76 - | 20*06*76      | 13/ 11        | 40   | AEDC B / | HYPersonic      |        | K3A | 2367 | PUBLISHED       |
| 140C |       | .0175 | 0457B    | 12* 4*76 - | 12*05*76      | 26/ 34        | 14   | AEDC B / | HYPersonic      |        | K3A | 2367 | PUBLISHED       |
| 140C | SILTS | .0175 | 04400    | 8* 1*79 -  | 09*01*79      | 36/ 36        | 124  | ARC      | 11-FT TRANSONIC |        | B65 | 2472 | PUBLISHED       |

# PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 93

| REF.           | MODEL | SCALE | TEST NO. | SCHED.   | TESTING | COMPL    | HOURS EST/CHG | RUNS | FACILITY   | WIND       | TUNNEL | NO. | ND.  | DOCUMENT  | STATUS |
|----------------|-------|-------|----------|----------|---------|----------|---------------|------|------------|------------|--------|-----|------|-----------|--------|
| ELEV/ELEV SEAL |       | .0100 | DH58     | 3*24*78  | -       | 04*21*78 | 120/168       | 58   | ARC 3.5-FT | HYPERSONIC |        | 235 | 2417 | PUBLISHED |        |
| ELEV/ELEV      |       | .0100 | DH108    | 12*15*80 | -       | 01*15*81 | 200/139       | 43   | ARC 3.5-FT | HYPERSONIC |        | 254 | 2494 | PUBLISHED |        |



AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 94

| REF.      | MODEL | SCALE | TEST NO. | SCHED.  | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY | WIND       | TUNNEL | NO. | NO.  | DOCUMENT STATUS |
|-----------|-------|-------|----------|---------|---------------|---------------|------|----------|------------|--------|-----|------|-----------------|
| ELEV/ELEV |       | .0250 | 0H90     | 3* 2*78 | - 03*11*78    | 48/ 64        | 162  | AEDC B / | HYPERSONIC |        | P4A | 2451 | PUBLISHED       |
| ELEV/ELEV |       | .0250 | 0H107    | 1* 7*81 | - 01*08*81    | 12/ 12        | 0    | AEDC B / | HYPERSONIC |        | B17 | 2492 | PUBLISHED       |

AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 95

| REF.          | MODEL | SCALE | TEST NO. | SCHED.   | TESTING    | HOURS EST/CHG | RUNS | FACILITY          | WIND      | TUNNEL | NO. | DOCUMENT NO. | STATUS     |
|---------------|-------|-------|----------|----------|------------|---------------|------|-------------------|-----------|--------|-----|--------------|------------|
| JSC 040A ORB. |       | .0500 | MA1      | 8*25*72  | - 09*06*72 | 80/ 80        | 120  | LTV 15X20-FT      | LOW SPEED |        | 407 | 2004         | PUBLISHED  |
| JSC 040A ORB. |       | .0500 | MA8      | 12*15*72 | - 01*27*73 | 40/ 40        | 40   | TEXAS A+M 7X10-FT | LOW SPEED |        | MA8 |              | UNASSIGNED |
| 2A/089B(CAN)  |       | .0500 | MA14     | 4*23*73  | - 05*02*73 | 80/ 62        | 103  | LTV 15X20-FT      | LOW SPEED |        | 422 | 2283         | PUBLISHED  |

AUG 01, 1984

## PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 96

| REF. | MODEL      | SCALE  | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY  | WIND      | TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|------|------------|--------|----------|---------------------|---------------|---------------|------|-----------|-----------|--------|-----|--------------|-----------|
|      | LRSI TILES | 1.0000 | 0531     | 11*22*77 - 11*30*77 |               | 84/ 56        | 55   | ARC 11-FT | TRANSONIC |        | 145 |              | PUBLISHED |
|      | HRSI TILE  | 1.0000 | 0536     | 4*16*79 - 04*19*79  |               | 60/ 64        | 0    | ARC 11-FT | TRANSONIC |        | 369 | 2458         | PUBLISHED |
|      | LRSI TILES | 1.0000 | 0541     | 4*18*79 - 04*20*79  |               | 8/ 16         | 0    | ARC 11-FT | TRANSONIC |        | 369 | 2458         | PUBLISHED |
|      | TPS TILES  | 1.0000 | 0542     | 7* 2*79 - 07*05*79  |               | 8/ 8          | 0    | ARC 11-FT | TRANSONIC |        | 380 | 2463         | PUBLISHED |
|      | TPS TILES  | 1.0000 | 0545     | 9* 3*79 - 09*03*75  |               | 8/ 8          | 0    | ARC 11-FT | TRANSONIC |        | 381 | 2470         | PUBLISHED |
|      | TPS TILE   | 1.0000 | 0551B    | 11*17*80 - 11*19*80 |               | 50/ 50        | 0    | ARC 11-FT | TRANSONIC |        | 436 | 2487         | PUBLISHED |
|      | TPS TILE   | 1.0000 | 0551A    | 11*17*80 - 01*21*81 |               | 50/ 77        | 0    | ARC 11-FT | TRANSONIC |        | 436 | 2487         | PUBLISHED |
|      | TPS TILE   | 1.0000 | 0551C    | 1*27*81 - 01*29*81  |               | 27/ 27        | 0    | ARC 11-FT | TRANSONIC |        | 436 | 2487         | PUBLISHED |
|      | TPS TILE   | 1.0000 | 0560     | 6* 9*81 - 06*09*81  |               | 8/ 18         | 0    | ARC 11-FT | TRANSONIC |        | 500 | 2506         | PUBLISHED |

A-218

PHASE C/D WIND TUNNEL TESTING PER MODEL

FEB 08, 1983

MODEL #97 WAS NOT BUILT

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 98

| REF.   | MODEL | SCALE | TEST NO. | SCHED.  | TESTING    | HOURS EST/CHG | RUNS | FACILITY   | WIND       | TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|--------|-------|-------|----------|---------|------------|---------------|------|------------|------------|--------|-----|--------------|-----------|
| 5/140C |       | .0100 | IH99     | 8*28*77 | - 09*07*77 | 80/ 79        | 0    | ARC 3.5-FT | HYPERSONIC |        | 230 | 2452         | PUBLISHED |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID : 99

| REF.       | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY      | WIND       | TUNNEL | NO. | DOCUMENT NO. | STATUS     |
|------------|-------|-------|----------|---------------------|---------------|---------------|------|---------------|------------|--------|-----|--------------|------------|
| ADS PROBES |       | 1000  | 0A236    | 5*28*76 - 06*02*76  |               | 10/ 37        | 204  | RI 7X11-FT    | LOW SPEED  |        | 759 | 2337         | PUBLISHED  |
| ADS PROBES |       | 1000  | 0A238    | 10*25*76 - 11*08*76 |               | 24/ 48        | 57   | RI 7X11-FT    | LOW SPEED  |        | 764 | 2351         | PUBLISHED  |
| ADS PROBES |       | 1000  | 0A221B   | 11* 8*76 - 21*15*76 |               | 60/ 76        | 184  | ARC 9X7-FT    | SUPERSONIC |        | 119 | 2360         | PUBLISHED  |
| ADS PROBES |       | 1000  | 0A221C   | 11*15*76 - 11*22*76 |               | 60/ 68        | 58   | ARC 8X7-FT    | SUPERSONIC |        | 119 | 2360         | PUBLISHED  |
| ADS PROBES |       | 1000  | 0A237    | 1*24*77 - 01*31*77  |               | 60/ 60        | 32   | ARC 40X80-FT  | SUBSONIC   |        | 500 | 2375         | PUBLISHED  |
| ADS PROBES |       | 1000  | 0A234    | 6* 7*77 - 08*11*77  |               | 80/ 80        | 63   | LERC 10X10-FT | SUPERSONIC |        | 042 | 2400         | PUBLISHED  |
| ADS PROBES |       | 1000  | 0A232    | 2*17*78 - 03*01*78  |               | 80/ 80        | 281  | AEDC 16-FT    | TRANSONIC  |        | 431 | 2414         | PUBLISHED  |
| ADS PROBES |       | 1000  | 0A251B   | 4*17*78 - 04*23*78  |               | 40/ 80        | 90   | ARC 9X7-FT    | SUPERSONIC |        | 282 | 2421         | PUBLISHED  |
| ADS PROBES |       | 1000  | 0A251C   | 5*29*78 - 06*15*78  |               | 40/ 72        | 96   | ARC 8X7-FT    | SUPERSONIC |        | 282 | 2421         | PUBLISHED  |
| ADS PROBES |       | 1000  | MA34     | 3*12*81 - 03*20*81  |               | 40/ 60        | 0    | AEDC 16-FT    | TRANSONIC  |        | 594 | 2497         | IN PROCESS |
| ADS PROBES |       | 1000  | MA35B    | 12* 2*81 - 12*16*81 |               | 40/ 80        | 0    | ARC 9X7-FT    | SUPERSONIC |        | 513 |              | UNASSIGNED |
| ADS PROBES |       | 1000  | MA35C    | 4*19*82 - 04*23*82  |               | 40/120        | 0    | ARC 8X7-FT    | SUPERSONIC |        | 513 |              | UNASSIGNED |

AUG 01. 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 100

| REF.           | MODEL | SCALE | TEST NO. | TESTING SCHED. | COMPL      | HOURS EST/CHG | RUNS | FACILITY                     | WIND | TUNNEL | NO. | DOC. NO. | DOCUMENT STATUS |
|----------------|-------|-------|----------|----------------|------------|---------------|------|------------------------------|------|--------|-----|----------|-----------------|
| 5/140C + TOWER |       | .0460 | IS20     | 7*24*78        | - 08*25*78 | 200/216       | 0    | LARC 16-FT TRANSONIC DYNAMIC |      |        | 306 |          | UNASSIGNED      |

PHASE C/D WIND TUNNEL TESTING PER FACILITY

SEP 01, 1982

MODEL # 101 WAS NOT BUILT.....



SEP 01, 1982

PHASE C/D WIND TUNNEL TESTING PER FACILITY

MODEL # 102 WAS NOT BUILT.....

A-224

C-5

SEP 01, 1982

PHASE C/D WIND TUNNEL TESTING PER FACILITY

MODEL # 103 WAS NOT BUILT.....

AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 104

| REF.    | MODEL | SCALE | TEST NO. | SCHED.  | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY             | WIND | TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|---------|-------|-------|----------|---------|---------------|---------------|------|----------------------|------|--------|-----|--------------|-----------|
| VEH 102 |       | .0200 | 0A270C   | 4* 8*78 | - 04*28*78    | 20/ 72        | 80   | LARC 16-FT TRANSONIC |      |        | 325 | 2419         | PUBLISHED |

PHASE C/D WIND TUNNEL TESTING PER MODEL

AUG 01, 1984

MODEL ID: 105

| REF.     | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY                 | WIND       | TUNNEL | NO.  | DOCUMENT NO. | STATUS    |
|----------|-------|-------|----------|---------------------|---------------|---------------|------|--------------------------|------------|--------|------|--------------|-----------|
| VEH. 102 |       | .0200 | 0A209    | 3*21*78 - 03*30*78  |               | 65/ 69        | 324  | AEDC A /                 | SUPERSONIC |        | P5A  | 2415         | PUBLISHED |
| VEH. 102 |       | .0200 | 0A208    | 3*30*78 - 04*06*78  |               | 52/ 47        | 183  | AEDC B /                 | HYPERSONIC |        | P5A  | 2416         | PUBLISHED |
| VEH. 102 |       | .0200 | 0A270B   | 5* 1*78 - 05*12*78  |               | 40/ 80        | 357  | LARC 16-FT               | TRANSONIC  |        | 325  | 2419         | PUBLISHED |
| VEH. 102 |       | .0200 | 0A171    | 6* 5*78 - 06*22*78  |               | 180/180       | 35   | NSWC HYPERSONIC LAB (#9) |            |        | 1310 | 2433         | PUBLISHED |
| VEH. 102 |       | .0200 | LA125    | 7* 3*78 - 07*05*78  |               | 16/ 48        | 41   | LARC UNITARY PLAN        |            |        | 1243 | 2432         | PUBLISHED |
| VEH. 102 |       | .0200 | LA140    | 12*26*79 - 01*03*80 |               | 80/ 80        | 17   | LARC 16-FT               | TRANSONIC  |        | 342  | 2475         | PUBLISHED |

AUG 01, 1984

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 106

| REF.    | MODEL | SCALE | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY                     | WIND | TUNNEL | NO.  | DOCUMENT NO. | STATUS     |
|---------|-------|-------|----------|---------------------|---------------|---------------|------|------------------------------|------|--------|------|--------------|------------|
| VEH 102 |       | .0200 | LA143    | 12*21*79 - 01*08*80 |               | 80/ 88        | 0    | LARC 8-FT TRANSONIC PRESSURE |      |        | 865  |              | UNASSIGNED |
| VEH 102 |       | .0200 | LA131    | 1* 8*80 - 02*01*80  |               | 80/144        | 624  | LARC UNITARY PLAN            |      |        | 1299 | 2478         | PUBLISHED  |
| VEH 102 |       | .0200 | LA144    | 7*28*80 - 08*01*80  |               | 80/138        | 198  | LTV 4X4-FT SUPERSONIC        |      |        | 742  | 2484         | PUBLISHED  |
| VEH 102 |       | .0200 | OA258    | 11*25*80 - 01*06*81 |               | 48/128        | 541  | AEDC B / HYPERSONIC          |      |        | BHQ  | 2491         | PUBLISHED  |
| VEH 102 |       | .0200 | MA37     | 11* 2*81 - 11*04*81 |               | 40/ 24        | 100  | LARC UNITARY PLAN            |      |        | 1394 |              | UNASSIGNED |
| VEH 102 |       | .0200 | MA33A    | 4*19*82 - 04*30*82  |               | 80/144        | 0    | ARC 11-FT TRANSONIC          |      |        | 510  | 2507         | PUBLISHED  |
| VEH 102 |       | .0200 | MA33B    | 5*10*82 - 05*21*82  |               | 40/ 96        | 0    | ARC 9X7-FT SUPERSONIC        |      |        | 510  | 2507         | PUBLISHED  |

FEB 08. 1983

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 107

| REF. | MODEL | SCALE | TEST NO. | SCHED.              | TESTING | HOURS EST/CHG | RUNS                 | FACILITY | WIND | TUNNEL | NO. | NO.  | DOCUMENT  | STATUS |
|------|-------|-------|----------|---------------------|---------|---------------|----------------------|----------|------|--------|-----|------|-----------|--------|
| TILE |       | .3300 | 0A252    | 10*16*79 - 11*14*79 | 360/360 | 0             | ARC 2X2-FT TRANSONIC |          |      |        | 382 | 2473 | PUBLISHED |        |

FEB 08, 1983

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 108

| REF.      | MODEL | SCALE  | TEST NO. | SCHED.              | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY   | WIND      | TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|-----------|-------|--------|----------|---------------------|---------------|---------------|------|------------|-----------|--------|-----|--------------|-----------|
| TPS       |       | 1.0000 | 0546B    | 3* 6*80 - 03*08*80  |               | 24/ 24        | 0    | AEDC 16-FT | TRANSONIC |        | 551 | 2505         | PUBLISHED |
| TPS       |       | 1.0000 | 0546D    | 8* 0*80 - 09*00*80  |               | 8/ 8          | 0    | AEDC 16-FT | TRANSONIC |        | 551 | 2505         | PUBLISHED |
| TPS       |       | 1.0000 | 0546E    | 9*15*80 - 10*20*80  |               | 8/ 8          | 0    | AEDC 16-FT | TRANSONIC |        | 551 | 2505         | PUBLISHED |
| TPS       |       | 1.0000 | 0546F    | 10* 1*80 - 10*02*80 |               | 8/ 8          | 0    | AEDC 16-FT | TRANSONIC |        | 551 | 2505         | PUBLISHED |
| TPS TITLE |       | 1.0000 | 0556     | 8*26*81 - 08*27*81  |               | 8/ 8          | 0    | AEDC 16-FT | TRANSONIC |        | 608 | 2489         | PUBLISHED |
| TPS       |       | 1.0000 | 0546G    | 12*10*81 - 12*11*81 |               | 8/ 17         | 0    | AEDC 16-FT | TRANSONIC |        | 551 | 2505         | PUBLISHED |

PHASE C/D WIND TUNNEL TESTING PER MODEL

FEB 08, 1983

MODEL ID : 103

| REF. | MODEL | SCALE  | TEST NO. | SCHED.  | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY   | WIND TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|------|-------|--------|----------|---------|---------------|---------------|------|------------|-------------|-----|--------------|-----------|
| TPS  |       | 1.0000 | 0S46A    | 3* 4*80 | - 03*05*80    | 8/ 8          | 0    | AEDC 16-FT | TRANSONIC   | 551 | 2505         | PUBLISHED |
| TPS  |       | 1.0000 | 0S46C    | 4*17*80 | - 04*18*80    | 8/ 8          | 0    | AEDC 16-FT | TRANSONIC   | 551 | 2505         | PUBLISHED |



FEB 08, 1983

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 110

| REF. | MODEL | SCALE  | TEST NO. | SCHED.   | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY            | WIND | TUNNEL | NO. | NO. | DOCUMENT STATUS |
|------|-------|--------|----------|----------|---------------|---------------|------|---------------------|------|--------|-----|-----|-----------------|
| TPS  |       | 1.0000 | 0S47     | 11. 1.79 | - 12.20.79    | 160/160       | 0    | AEDC 1-FT TRANSONIC |      |        |     |     | UNASSIGNED      |

PHASE C/D WIND TUNNEL TESTING PER MODEL

FEB 08, 1983

MODEL ID : 111

| REF. | MODEL | SCALE  | TEST NO. | SCHED.  | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY   | WIND      | TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|------|-------|--------|----------|---------|---------------|---------------|------|------------|-----------|--------|-----|--------------|-----------|
| TPS  |       | 1.0000 | 0549     | 1+28+81 | - 02+04+81    | 40/ 44        | 0    | AEDC 16-FT | TRANSONIC |        | 556 | 2483         | PUBLISHED |

FEB 08, 1983

PHASE C/D WIND TUNNEL TESTING PER MODEL

MODEL ID : 12

| REF.      | MODEL | SCALE | TEST NO. | SCHED.  | TESTING    | HOURS<br>EST/CHG | RUNS | FACILITY  | WIND      | TUNNEL | NO. | DOCUMENT<br>NO. | STATUS    |
|-----------|-------|-------|----------|---------|------------|------------------|------|-----------|-----------|--------|-----|-----------------|-----------|
| FUEL LINE |       | .5000 | 1A191    | 6*20*80 | - 06*27*80 | 40/ 40           | 0    | ARC 11-FT | TRANSONIC |        | 412 | 2378            | PUBLISHED |

PHASE C/D WIND TUNNEL TESTING PER MODEL

FEB 08. 1983

MODEL ID : 113

| REF. | MODEL | SCALE  | TEST NO. | SCHED.             | TESTING COMPL | HOURS EST/CHG | RUNS | FACILITY            | WIND | TUNNEL | NO. | DOCUMENT NO. | STATUS    |
|------|-------|--------|----------|--------------------|---------------|---------------|------|---------------------|------|--------|-----|--------------|-----------|
| TPS  |       | 1.0000 | 0550     | 4*30*81 - 06*01*81 |               | 40/113        | 0    | ARC 11-FT TRANSONIC |      |        | 425 | 2485         | PUBLISHED |

**APPENDIX B**  
**DOCUMENTATION LISTING**

TABLE B1. - DATAMAN LISTINGS WITH TEST, MODEL, FACILITY DATA  
TABLE B2. - DATAMAN DOCUMENT TITLES

APPENDIX B

TABLE B1. - DATAMAN LISTINGS WITH TEST, MODEL, FACILITY DATA

AUG 01, 1984

## PHASE C/D SSV WIND TUNNEL TESTING DATAMAN LISTING

| DATAMAN |           | TEST NO. | TESTING             | MODEL          | WIND TUNNEL |                              | NO.  |
|---------|-----------|----------|---------------------|----------------|-------------|------------------------------|------|
| NO.     | STATUS    |          |                     |                | REF.        | FACILITY                     |      |
| 2001    | PUBLISHED | MA5      | 9*15*72 - 09*25*72  | PRE-ATP/001    | ( 10 )      | LARC UNITARY PLAN            | 1002 |
| 2002    | PUBLISHED | LA1      | 11*19*72 - 12*19*72 | ATP            | ( 6 )       | LARC 8-FT TRANSONIC PRESSURE | 626  |
| 2003    | PUBLISHED | MA2      | 9*18*72 - 11*06*72  | ATP            | ( 1 )       | LARC 22-IN HELIUM            | 409  |
| 2004    | PUBLISHED | MA1      | 8*25*72 - 09*06*72  | JSC O40A ORB.  | ( 95 )      | LTV 15X20-FT LOW SPEED       | 407  |
| 2005    | PUBLISHED | UA1      | 9*27*72 - 10*07*72  | ATP            | ( 1 )       | MSFC 14-IN TRANSONIC         | 555  |
| 2006    | PUBLISHED | IA1A     | 10*10*72 - 10*19*72 | ATP            | ( 1 )       | MSFC 14-IN TRANSONIC         | 556  |
| 2007    | PUBLISHED | OA4      | 10* 2*72 - 10*17*72 | ATP            | ( 6 )       | ARC 3.5-FT HYPERSONIC        | 147  |
| 2008    | PUBLISHED | MA4      | 10* 1*72 - 10*02*72 | PI ATP ORBITER | ( 0 )       | LARC 31-IN CONT-FLOW HYP.    | 089  |
| 2009    | PUBLISHED | OA3      | 10*24*72 - 11*10*72 | ATP            | ( 6 )       | ARC 6X6-FT SUPERSONIC        | 650  |
| 2010    | PUBLISHED | IA1B     | 10*19*72 - 11*28*72 | ATP            | ( 1 )       | MSFC 14-IN TRANSONIC         | 545  |
| 2011    | PUBLISHED | MA9F     | 11*29*72 - 12*07*72 | ATP            | ( 1 )       | MSFC 14-IN TRANSONIC         | 558  |
| 2012    | PUBLISHED | SA1F     | 12* 9*72 - 12*23*72 | PRR/SRB        | ( 1 )       | MSFC 14-IN TRANSONIC         | 554  |
| 2013    | PUBLISHED | IA2      | 10*11*72 - 11*03*72 | PRE-ATP/001    | ( 7 )       | ARC 9X7-FT SUPERSONIC        | 616  |
| 2014    | PUBLISHED | OA7      | 11*27*72 - 12*08*72 | ATP            | ( 6 )       | LARC UNITARY PLAN            | 1007 |
| 2015    | PUBLISHED | IA4      | 11* 2*72 - 11*17*72 | PRE-ATP/001    | ( 9 )       | LTV 4X4-FT SUPERSONIC        | 458  |
| 2016    | PUBLISHED | OA2      | 9*25*72 - 10*03*72  | ATP            | ( 2 )       | RI 7X11-FT LOW SPEED         | 689  |
| 2017    | PUBLISHED | OA5      | 10*11*72 - 10*19*72 | ATP-MODIF      | ( 2 )       | RI 7X11-FT LOW SPEED         | 690  |
| 2018    | PUBLISHED | IA3      | 11* 3*72 - 11*16*72 | PRE-ATP/001    | ( 10 )      | RI 7X11-FT LOW SPEED         | 693  |
| 2019    | PUBLISHED | OA6      | 11*16*72 - 12*06*72 | PRR            | ( 2 )       | RI 7X11-FT LOW SPEED         | 694  |
| 2020    | PUBLISHED | OA9      | 12*18*72 - 01*09*73 | 2A/O89B        | ( 2 )       | RI 7X11-FT LOW SPEED         | 696  |

| DATAMAN |           | TEST   |                     | TESTING |                | MODEL  |                              | WIND TUNNEL |     |  |
|---------|-----------|--------|---------------------|---------|----------------|--------|------------------------------|-------------|-----|--|
| NO.     | STATUS    | NO.    | SCHED.              | COMPL.  | REF.           | (ID)   | FACILITY                     |             | NO. |  |
| 2021    | PUBLISHED | 0A45   | 2*21*73 - 02*28*73  |         | 2A/089B        | ( 2 )  | RI 7X11-FT LOW SPEED         |             | 699 |  |
| 2022    | PUBLISHED | 0A10   | 1*30*73 - 02*16*73  |         | 2A/089B        | ( 2 )  | RI 7X11-FT LOW SPEED         |             | 698 |  |
| 2023    | PUBLISHED | LA2    | 10* 6*72 - 12*07*72 |         | L/O-100 ORB.   | ( 0 )  | LARC 22-IN HELIUM            |             | 411 |  |
| 2024    | PUBLISHED | IA7    | 2*12*73 - 02*23*73  |         | PRE-ATP/001    | ( 7 )  | ARC 11-FT TRANSONIC          |             | 686 |  |
| 2025    | PUBLISHED | SA3F   | 2*20*73 - 03*20*73  |         | SRB            | (449)  | MSFC 14-IN TRANSONIC         |             | 565 |  |
| 2026    | PUBLISHED | IA31FA | 4* 9*73 - 04*13*73  |         | 2A/089B        | ( 13 ) | MSFC 14-IN TRANSONIC         |             | 566 |  |
| 2027    | PUBLISHED | IA32F  | 5* 9*73 - 05*24*73  |         | 2A/089B        | ( 13 ) | MSFC 14-IN TRANSONIC         |             | 567 |  |
| 2028    | PUBLISHED | IA31FB | 4*13*73 - 04*30*73  |         | 2A/089B        | ( 13 ) | MSFC 14-IN TRANSONIC         |             | 570 |  |
| 2029    | PUBLISHED | 0A47   | 3*28*73 - 04*05*73  |         | 2A/089B        | ( 13 ) | MSFC 14-IN TRANSONIC         |             | 568 |  |
| 2030    | PUBLISHED | 0A14   | 2*28*73 - 03*15*73  |         | 2A/089B        | ( 2 )  | RI 7X11-FT LOW SPEED         |             | 700 |  |
| 2031    | PUBLISHED | LA3    | 8*23*72 - 11*16*72  |         | L/O-100 ORB.   | ( 0 )  | LARC 31-IN CONT-FLOW HYP.    |             | 085 |  |
| 2032    | PUBLISHED | IA9C   | 4*22*73 - 05*01*73  |         | 2A/089B        | ( 17 ) | ARC 8X7-FT SUPERSONIC        |             | 707 |  |
| 2033    | PUBLISHED | LA4C   | 2*19*73 - 02*23*73  |         | L/O-100 ORB.   | ( 0 )  | LARC UNITARY PLAN            |             | 995 |  |
| 2034    | PUBLISHED | LA22   | 6*19*72 - 06*30*72  |         | JSC 049        | ( 0 )  | LARC 22-IN HELIUM            |             | 405 |  |
| 2035    | PUBLISHED | 0H2    | 4*18*73 - 06*01*73  |         | TPS TILES      | ( 15 ) | ARC 3.5-FT HYPERSONIC        |             | 158 |  |
| 2036    |           |        |                     |         |                |        |                              |             |     |  |
| 2037    | PUBLISHED | 0A84   | 2*10*73 - 12*14*73  |         | 4/140A,B       | ( 49 ) | LTV 4X4-FT SUPERSONIC        |             | 488 |  |
| 2038    | PUBLISHED | 0A16   | 3*19*73 - 04*17*73  |         | 2A/089B        | ( 2 )  | RI 7X11-FT LOW SPEED         |             | 701 |  |
| 2039    | PUBLISHED | IA6    | 4*30*73 - 05*03*73  |         | 2A/089B        | ( 13 ) | MSFC 14-IN TRANSONIC         |             | 571 |  |
| 2040    | PUBLISHED | LA6    | 4*12*73 - 04*18*73  |         | 089B, 139 NOSE | ( 0 )  | LARC 8-FT TRANSONIC PRESSURE |             | 643 |  |
| 2041    |           |        |                     |         |                |        |                              |             |     |  |
| 2042    | PUBLISHED | IA52   | 10*11*73 - 10*17*73 |         | 3A/139B        | ( 34 ) | MSFC 14-IN TRANSONIC         |             | 584 |  |
| 2043    | PUBLISHED | LA16   | 6*26*72 - 08*23*72  |         | HRSI TILE      | ( 0 )  | LARC MACH 8 VARIABLE DENSITY |             | 624 |  |
| 2044    | PUBLISHED | 0A11A  | 4* 9*73 - 04*17*73  |         | 2A/089B        | ( 18 ) | ARC 3.5-FT HYPERSONIC        |             | 157 |  |
| 2045    | PUBLISHED | 0A18   | 5* 8*73 - 05*17*73  |         | 3/139B         | ( 43 ) | RI 7X11-FT LOW SPEED         |             | 704 |  |



| DATAMAN<br>NO. | STATUS    | TEST<br>NO. | TESTING             |        | MODEL<br>REF.  | (ID)   | FACILITY                      | WIND TUNNEL | NO.  |
|----------------|-----------|-------------|---------------------|--------|----------------|--------|-------------------------------|-------------|------|
|                |           |             | SCHED.              | COMPL. |                |        |                               |             |      |
| 2046           | PUBLISHED | LA17        | 5* 4*73 - 05*14*73  |        | L/O-100 ORB    | ( O )  | LARC 8-FT TRANSONIC PRESSURE  |             | 648  |
| 2047           | PUBLISHED | LA31        | 8* 9*73 - 08*16*73  |        | LARC ORB       | ( O )  | LARC 31-IN CONT-FLOW HYP.     |             | 098  |
| 2048           | PUBLISHED | IA12B       | 4*23*73 - 05*07*73  |        | 2A/089B(MOD)   | ( 14 ) | ARC 9X7-FT SUPERSONIC         |             | 710  |
| 2049           | PUBLISHED | OH40        | 1*30*73 - 02*05*73  |        | 2A/089B        | ( 31 ) | LARC MACH 8 VARIABLE DENSITY  |             | 3619 |
| 2050           | PUBLISHED | OA43        | 4*18*73 - 05*04*73  |        | 2A/089B        | ( 18 ) | ARC 6X6-FT SUPERSONIC         |             | 706  |
| 2051           | PUBLISHED | SA5F        | 5* 3*73 - 05*08*73  |        | .SRB           | (449)  | MSFC 14-IN TRANSONIC          |             | 572  |
| 2052           |           |             |                     |        |                |        |                               |             |      |
| 2053           | PUBLISHED | OA21B       | 6*21*73 - 06*25*73  |        | 3/139B W/CANS  | ( 43 ) | RI 7X11-FT LOW SPEED          |             | 705  |
| 2054           | PUBLISHED | LA8C        | 7* 3*73 - 07*06*73  |        | 089B, 139 NOSE | ( O )  | LARC UNITARY PLAN             |             | 1039 |
| 2055           | PUBLISHED | OA48        | 5*25*73 - 6*11*73   |        | 3/139B W/CANS  | ( 34 ) | MSFC 14-IN TRANSONIC          |             | 574  |
| 2056           | PUBLISHED | LA9C        | 10*31*73 - 11*02*73 |        | 089B, 139 NOSE | ( O )  | LARC LOW TURBULANCE PRESSURE  |             | 148  |
| 2057           | PUBLISHED | OA44-2      | 6*11*73 - 06*15*73  |        | 3/139B         | ( 42 ) | LARC UNITARY PLAN             |             | 1035 |
| 2058           | PUBLISHED | OA17-2      | 6*18*73 - 07*06*73  |        | 2A/089B        | ( 18 ) | LARC LOW TURBULANCE PRESSURE  |             | 138  |
| 2059           | PUBLISHED | OA11B       | 5*14*73 - 05*25*73  |        | 2A/089B        | ( 18 ) | ARC 3.5-FT HYPERSONIC         |             | 160  |
| 2060           | PUBLISHED | OA58        | 6* 4*73 - 06*18*73  |        | 3/139B         | ( 42 ) | ARC 3.5-FT HYPERSONIC         |             | 163  |
| 2061           | PUBLISHED | OA68        | 6*20*73 - 6*29*73   |        | 3A/140A        | ( 49 ) | RI 7-FT TRISONIC              |             | 276  |
| 2062           | PUBLISHED | IA13        | 7* 5*73 - 07*17*73  |        | 3/139B         | ( 32 ) | AEDC A / SUPERSONIC           |             | 323  |
| 2063           | PUBLISHED | IA48        | 7*18*73 - 07*21*73  |        | 3A/139B        | ( 34 ) | MSFC 14-IN TRANSONIC          |             | 580  |
| 2064           | PUBLISHED | IA36        | 6*15*73 - 06*22*73  |        | 2A/089(MOD)    | ( 14 ) | CALSPAN 8-FT TRANSONIC        |             | 053  |
| 2065           | PUBLISHED | IA12C       | 7*11*73 - 07*27*73  |        | 2A/089(MOD)    | ( 14 ) | ARC 8X7-FT SUPERSONIC         |             | 710  |
| 2066           | PUBLISHED | LA11        | 7*11*73 - 07*20*73  |        | 089B, 139 NOSE | ( O )  | LARC 31-IN CONT-FLOW HYP.     |             | 096  |
| 2067           | PUBLISHED | OS2         | 6* 4*73 - 06*07*73  |        | ATP            | ( 24 ) | LARC 26-IN TRANSONIC BLOWDOWN |             | 544  |
| 2068           | PUBLISHED | OA71A       | 7*27*73 - 08*03*73  |        | 2A/089B        | ( 2 )  | RI 7X11-FT LOW SPEED          |             | 708  |
| 2069           | PUBLISHED | MA7         | 5*14*73 - 05*18*73  |        | 2A/089B        | ( 6 )  | LARC UNITARY PLAN             |             | 1031 |
| 2070           | PUBLISHED | LA23        | 7*31*73 - 08*03*73  |        | L/O-100 ORB    | ( O )  | LARC LOW TURBULANCE PRESSURE  |             | 141  |

| DATAMAN |           | TEST   |          | TESTING  |                | MODEL |                               | WIND TUNNEL |  |  |
|---------|-----------|--------|----------|----------|----------------|-------|-------------------------------|-------------|--|--|
| NO.     | STATUS    | NO.    | SCHED.   | COMPL.   | REF.           | (ID)  | FACILITY                      | NO.         |  |  |
| 2071    | PUBLISHED | OA23-2 | 7*26*73  | 07*31*73 | 3/139B         | ( 32) | ARC 3.5-FT HYPERSONIC         | 168         |  |  |
| 2072    | PUBLISHED | IA31FC | 6*21*73  | 07*09*73 | 2A/089B        | ( 13) | MSFC 14-IN TRANSONIC          | 573         |  |  |
| 2073    | PUBLISHED | OA70   | 7*20*73  | 7*26*73  | 3/139B         | ( 42) | LARC UNITARY PLAN             | 1043        |  |  |
| 2074    | PUBLISHED | OA57A  | 8* 6*73  | 8*17*73  | 2A/089B        | ( 2)  | RI 7X11-FT LOW SPEED          | 709         |  |  |
| 2075    | PUBLISHED | OH41A  | 3*19*73  | 03*28*73 | 2A/089B        | ( 33) | LARC MACH 8 VARIABLE DENSITY  | 3778        |  |  |
| 2076    | PUBLISHED | OH41B  | 5* 8*73  | 05*10*73 | 2A/089B        | ( 38) | LARC MACH 8 VARIABLE DENSITY  | 4060        |  |  |
| 2077    | PUBLISHED | IA29   | 9*12*73  | 09*25*73 | 4/140A,B       | ( 36) | ARC 6X6-FT SUPERSONIC         | 630         |  |  |
| 2078    | PUBLISHED | IA10   | 8* 1*73  | 08*03*73 | 3/139B         | ( 32) | ARC 3.5-FT HYPERSONIC         | 169         |  |  |
| 2079    | PUBLISHED | LA15   | 8* 3*73  | 09*24*73 | 089B, 139 NOSE | ( 0)  | LARC 20-IN HYPERSONIC (M=6)   | 6441        |  |  |
| 2080    | PUBLISHED | OA57B  | 9*15*73  | 09*17*73 | 2A/089B        | ( 2)  | RI 7X11-FT LOW SPEED          | 713         |  |  |
| 2081    | PUBLISHED | OA69   | 8*28*73  | 09*01*73 | 3/139B         | ( 43) | RI 7X11-FT LOW SPEED          | 711         |  |  |
| 2082    | PUBLISHED | OA73   | 7*11*73  | 7*18*73  | 3/139B         | ( 42) | ARC 3.5-FT HYPERSONIC         | 167         |  |  |
| 2083    | PUBLISHED | OA20A  | 9*10*73  | 09*13*73 | 4/140A,B       | ( 49) | LARC UNITARY PLAN             | 1057        |  |  |
| 2084    | PUBLISHED | IA14A  | 9* 4*73  | 09*13*73 | 4/140A,B       | ( 47) | ARC 11-FT TRANSONIC           | 716         |  |  |
| 2085    | PUBLISHED | IH2    | 9* 4*73  | 09*11*73 | 3/139          | ( 26) | ARC 3.5-FT HYPERSONIC         | 171         |  |  |
| 2086    | PUBLISHED | OA71C  | 9* 4*73  | 09*14*73 | 3/139B         | ( 43) | RI 7X11-FT LOW SPEED          | 712         |  |  |
| 2087    | PUBLISHED | SA10F  | 9*13*73  | 10*01*73 | SRB            | (449) | MSFC 14-IN TRANSONIC          | 578         |  |  |
| 2088    | PUBLISHED | SA2FB  | 9*24*73  | 09*28*73 | SRB            | (454) | LARC 8-FT TRANSONIC PRESSURE  | 662         |  |  |
| 2089    | PUBLISHED | OA25   | 9*14*73  | 09*21*73 | 4/140A,B       | ( 49) | LARC 8-FT TRANSONIC PRESSURE  | 661         |  |  |
| 2090    | PUBLISHED | LA8D   | 7*10*73  | 07*13*73 | 089B, 139 NOSE | ( 0)  | LARC UNITARY PLAN             | 1040        |  |  |
| 2091    |           |        |          |          |                |       |                               |             |  |  |
| 2092    | PUBLISHED | OA72   | 7*30*73  | 08*24*73 | 3A/139B        | ( 34) | LARC 22-IN HELIUM             | 415         |  |  |
| 2093    | PUBLISHED | IA37B  | 10*15*73 | 10*16*73 | 3A/139B        | ( 34) | MSFC 14-IN TRANSONIC          | 585         |  |  |
| 2094    | PUBLISHED | DS1    | 8* 6*73  | 08*10*73 | 2A/089B        | ( 23) | LARC 26-IN TRANSONIC BLOWDOWN | 545         |  |  |
| 2095    | PUBLISHED | OA49   | 10*18*73 | 11*09*73 | 4/140A,B       | ( 34) | MSFC 14-IN TRANSONIC          | 581         |  |  |

| NO.  | STATUS    | DATAMAN | TEST NO. | TESTING             |        | MODEL          | FACILITY | WIND TUNNEL                  | NO.  |
|------|-----------|---------|----------|---------------------|--------|----------------|----------|------------------------------|------|
|      |           |         |          | SCHED.              | COMPL. |                |          |                              |      |
| 2096 | PUBLISHED |         | OH13     | 6*13*73 - 06*13*73  |        | 2A/O89B        | ( 41)    | LARC MACH 8 VARIABLE DENSITY | 644  |
| 2097 | PUBLISHED |         | DA62A    | 10* 5*73 - 10*23*73 |        | 4/140A,B       | ( 43)    | RI 7X11-FT LOW SPEED         | 715  |
| 2098 | PUBLISHED |         | IH15     | 8*13*73 - 08*17*73  |        | 2A/O89B        | ( 41)    | ARC 3.5-FT HYPERSONIC        | 172  |
| 2099 | PUBLISHED |         | OH4B     | 9*29*73 - 10*04*73  |        | 3/139          | ( 22)    | AEDC B / HYPERSONIC          | 352  |
| 2100 | PUBLISHED |         | OH3B     | 7* 9*73 - 07*11*73  |        | 3/139B         | ( 21)    | AEDC B / HYPERSONIC          | 289  |
| 2101 | PUBLISHED |         | OH42C    | 6*14*73 - 06*15*73  |        | 3/139A, W/CAN  | ( 46)    | LARC MACH 8 VARIABLE DENSITY | 4080 |
| 2102 | PUBLISHED |         | IA15     | 10*10*73 - 10*16*73 |        | 3/139B         | ( 32)    | ARC 3.5-FT HYPERSONIC        | 175  |
| 2103 | PUBLISHED |         | IA62F    | 11*15*73 - 11*19*73 |        | 4/140A,B       | ( 34)    | MSFC 14-IN TRANSONIC         | 589  |
| 2104 | PUBLISHED |         | OA62B    | 11*13*73 - 12*06*73 |        | 4/140A,B       | ( 43)    | RI 7X11-FT LOW SPEED         | 717  |
| 2105 | PUBLISHED |         | IH17     | 10* 9*73 - 10*16*73 |        | 2A/O89B        | ( 41)    | LARC MACH 8 VARIABLE DENSITY | 646  |
| 2106 | PUBLISHED |         | LA14D    | 12* 5*73 - 12*07*73 |        | 089B, 139 NOSE | (202)    | LARC UNITARY PLAN            | 1058 |
| 2107 | PUBLISHED |         | LA20C    | 8*29*73 - 08*31*73  |        | 089B, 139NOSE  | (202)    | LARC 8-FT TRANSONIC PRESSURE | 658  |
| 2108 | PUBLISHED |         | IA35     | 11* 1*73 - 11*02*73 |        | 4/140A,B       | ( 36)    | LARC UNITARY PLAN            | 1063 |
| 2109 | PUBLISHED |         | OH45     | 11* 2*73 - 11*09*73 |        | 3A/139B        | ( 50)    | LARC 20-IN FREON             | 121  |
| 2110 | PUBLISHED |         | IH18     | 10*19*73 - 10*30*73 |        | 2A/O89B        | ( 41)    | LARC 20-IN FREON             | 118  |
| 2111 | PUBLISHED |         | SA26FB   | 1*28*74 - 01*30*74  |        | SRB            | (449)    | MSFC 14-IN TRANSONIC         | 595  |
| 2112 | PUBLISHED |         | IA57     | 11*20*73 - 11*20*73 |        | 3/139, 089B    | ( 32)    | AEDC A / SUPERSONIC          | 422  |
| 2113 | PUBLISHED |         | OA85     | 10*31*73 - 11*08*73 |        | 3/139B         | ( 32)    | LARC 31-IN CONT-FLOW HYP.    | 101  |
| 2114 | PUBLISHED |         | OA86     | 10*26*73 - 11*09*73 |        | 4/140A,B       | ( 43)    | RI 7X11-FT LOW SPEED         | 716  |
| 2115 | PUBLISHED |         | OA87     | 10*15*73 - 10*23*73 |        | 4/140A,B       | ( 49)    | ARC 3.5-FT HYPERSONIC        | 176  |
| 2116 | PUBLISHED |         | OA91     | 10*26*73 - 11*01*73 |        | 4/140A/B       | ( 49)    | RI 7-FT TRISONIC             | 278  |
| 2117 | PUBLISHED |         | OH14     | 10*17*73 - 10*18*73 |        | 3A/139B        | ( 50)    | LARC MACH 8 VARIABLE DENSITY | 648  |
| 2118 | PUBLISHED |         | IA41     | 12*11*73 - 12*14*73 |        | 4/140A,B       | ( 67)    | LARC 8-FT TRANSONIC PRESSURE | 667  |
| 2119 | PUBLISHED |         | IA42B    | 12*17*73 - 12*21*73 |        | 4/140A,B       | ( 67)    | LARC UNITARY PLAN            | 1073 |
| 2120 | PUBLISHED |         | OA106    | 12*17*73 - 12*18*73 |        | 4/140A,B       | ( 67)    | LARC 8-FT TRANSONIC PRESSURE | 668  |

| DATAMAN |           | TEST  |  | TESTING             |        | MODEL          |        | WIND TUNNEL                  |  | ND.  |
|---------|-----------|-------|--|---------------------|--------|----------------|--------|------------------------------|--|------|
| NO.     | STATUS    | NO.   |  | SCHED.              | COMPL. | REF.           | (ID)   | FACILITY                     |  |      |
| 2121    | CANCEL    | LA38A |  | 12*14*73 - 12*21*73 |        | 140A.B         | ( 0 )  | LARC 8-FT TRANSONIC PRESSURE |  | 669  |
| 2122    | PUBLISHED | IA69  |  | 1*10*74 - 01*14*75  |        | 4/140A.B       | ( 67 ) | RI 7-FT TRISONIC             |  | 280  |
| 2123    | PUBLISHED | IA53  |  | 12*20*73 - 01*04*74 |        | 2A/089B        | ( 13 ) | MSFC 14-IN TRANSONIC         |  | 588  |
| 2124    | PUBLISHED | IA16  |  | 11*17*73 - 12*04*73 |        | 4/140A.B       | ( 36 ) | ARC 3.5-FT HYPERSONIC        |  | 180  |
| 2125    | PUBLISHED | 0A88  |  | 12*11*73 - 12*28*73 |        | 4/140A.B       | ( 34 ) | LARC 22-IN HELIUM            |  | 7422 |
| 2126    | CANCEL    | LA25  |  | 8*30*73 - 09*07*73  |        | 3/139B         | ( 32 ) | LARC 31-IN CONT-FLOW HYP.    |  | 100  |
| 2127    | PUBLISHED | LA35  |  | 11*12*73 - 11*13*73 |        | 3/139B         | ( 32 ) | LARC 31-IN CONT-FLOW HYP.    |  | 102  |
| 2128    | PUBLISHED | 0A53A |  | 11*19*73 - 11*27*73 |        | 4/140A.B       | ( 47 ) | ARC 11-FT TRANSONIC          |  | 747  |
| 2129    | PUBLISHED | IA14B |  | 9*14*73 - 09*19*73  |        | 4/140A.B       | ( 47 ) | ARC 9X7-FT SUPERSONIC        |  | 716  |
| 2130    | PUBLISHED | 0A22A |  | 9*12*73 - 09*14*73  |        | 4/140A.B       | ( 47 ) | ARC 11-FT TRANSONIC          |  | 716  |
| 2131    | PUBLISHED | 0A22B |  | 9*19*73 - 09*20*73  |        | 4/140A.B       | ( 47 ) | ARC 9X7-FT SUPERSONIC        |  | 716  |
| 2132    | PUBLISHED | LA42B |  | 7*27*74 - 07*27*74  |        | 089B           | ( 0 )  | AEDC B / HYPERSONIC          |  | 48A  |
| 2133    | PUBLISHED | IA58  |  | 2*11*74 - 02*13*74  |        | 3/139, 089B    | ( 32 ) | LARC 31-IN CONT-FLOW HYP.    |  | 107  |
| 2134    | PUBLISHED | 0A78  |  | 12* 3*73 - 12*04*73 |        | 4/140A.B       | ( 49 ) | AEDC C / HYPERSONIC          |  | 474  |
| 2135    | CANCEL    | LA13C |  | 11*14*73 - 11*16*73 |        | 089B, 139 NOSE | ( 0 )  | LARC 31-IN CONT-FLOW HYP.    |  | 099  |
| 2136    | PUBLISHED | IH3   |  | 10*31*73 - 11*09*73 |        | 3/139          | ( 22 ) | ARC 3.5-FT HYPERSONIC        |  | 178  |
| 2137    | PUBLISHED | IA60  |  | 2*14*74 - 02*20*74  |        | 3/139, 089B    | ( 32 ) | LARC 31-IN CONT-FLOW HYP.    |  | 108  |
| 2138    | PUBLISHED | IH4   |  | 11*12*73 - 11*16*73 |        | 3/139          | ( 26 ) | LARC UNITARY PLAN            |  | 1059 |
| 2139    | PUBLISHED | 0A118 |  | 4*24*74 - 04*26*74  |        | 4/140A.B       | ( 43 ) | RI 7X11-FT LOW SPEED         |  | 724  |
| 2140    | PUBLISHED | 0A37  |  | 1* 7*74 - 01*25*74  |        | 4/140A.B       | ( 47 ) | RI 7X11-FT LOW SPEED         |  | 719  |
| 2141    | PUBLISHED | 0H11  |  | 10*24*73 - 11*01*73 |        | 3/139          | ( 29 ) | AEDC F / HYPERSONIC          |  | VA35 |
| 2142    | PUBLISHED | FA4   |  | 1*18*74 - 04*15*74  |        | TITAN-3C       | (459)  | MSFC 14-IN TRANSONIC         |  | 587  |
| 2143    | PUBLISHED | IA61A |  | 1*30*74 - 01*31*74  |        | 3/139, 089B    | ( 32 ) | AEDC A / SUPERSONIC          |  | 422  |
| 2144    | PUBLISHED | IA68  |  | 1*18*74 - 01*29*74  |        | 2A/089B        | ( 13 ) | RI 7-FT TRISONIC             |  | 281  |
| 2145    | PUBLISHED | TA1F  |  | 2*19*74 - 03*05*74  |        | ET             | (459)  | MSFC 14-IN TRANSONIC         |  | 583  |

| DATAMAN |           | TEST  | TESTING             |        | MODEL           |       | WIND TUNNEL                   |      |  |
|---------|-----------|-------|---------------------|--------|-----------------|-------|-------------------------------|------|--|
| NO.     | STATUS    | NO.   | SCHED.              | COMPL. | REF.            | (ID)  | FACILITY                      | NO.  |  |
| 2146    | PUBLISHED | IS4   | 10*18*73 - 10*24*73 |        | 2A/089B         | ( 30) | LARC 26-IN TRANSONIC BLOWDOWN | 547  |  |
| 2147    | PUBLISHED | 0A20C | 11* 5*73 - 11*08*73 |        | 4/140A,B        | ( 49) | LARC UNITARY PLAN             | 1057 |  |
| 2148    | PUBLISHED | IH20  | 1*18*74 - 02*06*74  |        | 3/139           | ( 22) | ARC 3.5-FT HYPERSONIC         | 185  |  |
| 2149    | PUBLISHED | 0A90  | 3* 4*74 - 03*06*74  |        | 4/140A,B        | ( 72) | LARC 31-IN CONT-FLOW HYP.     | 110  |  |
| 2150    | PUBLISHED | SA25F | 3* 4*74 - 03*11*74  |        | SRB             | (454) | LARC UNITARY PLAN             | 1087 |  |
| 2151    | PUBLISHED | 0H6   | 2* 6*74 - 02*11*74  |        | 3/139           | ( 22) | ARC 3.5-FT HYPERSONIC         | 183  |  |
| 2152    | PUBLISHED | 0A81  | 11*28*73 - 12*28*73 |        | 4/140A,B        | ( 51) | AEDC F / HYPERSONIC           | 489  |  |
| 2153    | PUBLISHED | IH1   | 12* 3*73 - 12*14*73 |        | 3/139           | ( 22) | LARC UNITARY PLAN             | 1071 |  |
| 2154    | PUBLISHED | 0H4A  | 11*12*73 - 12*05*73 |        | 3/139           | ( 29) | AEDC B / HYPERSONIC           | 352  |  |
| 2155    | PUBLISHED | 0A110 | 3*15*74 - 03*20*74  |        | 4/140A,B        | ( 16) | RI 7X11-FT LOW SPEED          | 721  |  |
| 2156    | PUBLISHED | IA17A | 3* 6*74 - 03*15*74  |        | 3/139B          | ( 52) | AEDC B / HYPERSONIC           | 422  |  |
| 2157    | PUBLISHED | IH19B | 12*27*73 - 01*08*74 |        | 2A/089B         | ( 50) | LARC HYPERSONIC NITROGEN      | 28   |  |
| 2158    | PUBLISHED | IS6B  | 3*20*73 - 05*27*73  |        | 2A/089B         | ( 13) | MSFC 14-IN TRANSONIC          | 559  |  |
| 2159    | PUBLISHED | 0A59  | 3*13*74 - 3*21*74   |        | 4/140A,B        | ( 49) | ARC 6X6-FT SUPERSONIC         | 709  |  |
| 2160    | PUBLISHED | IA18  | 4* 9*74 - 04*12*74  |        | 3/139B          | ( 52) | ARC 3.5-FT HYPERSONIC         | 191  |  |
| 2161    | PUBLISHED | SA6F  | 12* 3*73 - 01*16*74 |        | SRB             | (454) | LERC 10X10-FT SUPERSONIC      | 035  |  |
| 2162    | PUBLISHED | 0A36  | 2*25*74 - 03*01*74  |        | 4/140A,B        | ( 49) | ARC 3.5-FT HYPERSONIC         | 187  |  |
| 2163    | PUBLISHED | 0A20B | 4* 8*74 - 04*12*74  |        | 4/140A,B        | ( 49) | LARC UNITARY PLAN             | 1097 |  |
| 2164    | PUBLISHED | IH21  | 10*29*73 - 12*13*73 |        | 3/139           | ( 37) | CALSPAN HYPERSONIC SHOCK      | 100  |  |
| 2165    | PUBLISHED | TA2F  | 4*29*74 - 09*23*74  |        | ET              | (460) | MSFC 14-IN TRANSONIC          | 596  |  |
| 2166    | PUBLISHED | IH1C  | 7* 6*73 - 07*13*73  |        | 2A/089B         | ( 41) | LARC UNITARY PLAN             | 1041 |  |
| 2167    | PUBLISHED | 0A98  | 3*27*74 - 04*03*74  |        | 4/140A/B        | ( 49) | ARC 3.5-FT HYPERSONIC         | 190  |  |
| 2168    | PUBLISHED | LA32B | 11*28*73 - 12*03*73 |        | F.S. TILE ARRAY | ( 0)  | LARC 31-IN CONT-FLOW HYP.     | 097  |  |
| 2169    | PUBLISHED | IA81A | 7*26*74 - 08*27*74  |        | 4/140A,B (MOD)  | ( 47) | ARC 11-FT TRANSONIC           | 019  |  |
| 2170    | PUBLISHED | IA19A | 9*16*74 - 09*23*74  |        | 5/140C          | ( 88) | ARC 11-FT TRANSONIC           | 014  |  |

| DATAMAN |           | TEST    |          | TESTING  |                | MODEL |                              | WIND TUNNEL |  |
|---------|-----------|---------|----------|----------|----------------|-------|------------------------------|-------------|--|
| NO.     | STATUS    | NO.     | SCHED.   | COMPL.   | REF.           | (ID)  | FACILITY                     | NO.         |  |
| 2171    | PUBLISHED | OH38    | 6*21*74  | 07*18*74 | 4/140B         | ( 61) | ARC 3.5-FT HYPERSONIC        | 198         |  |
| 2172    | PUBLISHED | OA99    | 3*26*74  | 4*12*74  | 3/139B         | ( 21) | LARC 60-FT. VACUUM SPHERE    | 3289        |  |
| 2173    | PUBLISHED | IA8     | 2*12*73  | 03*12*73 | ATP            | ( 6)  | ARC 14-FT TRANSONIC          | 711         |  |
| 2174    | PUBLISHED | IA33    | 5* 9*74  | 07*21*74 | 5/140C         | ( 74) | MSFC 14-IN TRANSONIC         | 594         |  |
| 2175    | PUBLISHED | IA70    | 5* 3*74  | 05*24*74 | 4/140A,B       | ( 49) | RI 7-FT TRISONIC             | 282         |  |
| 2176    | PUBLISHED | LA40    | 5*13*74  | 06*07*74 | 139B           | ( 0)  | LARC 22-IN HELIUM            | 7426        |  |
| 2177    | PUBLISHED | OA83    | 5* 8*74  | 05*16*74 | 4/140A,B       | ( 36) | ARC 3.5-FT HYPERSONIC        | 194         |  |
| 2178    | PUBLISHED | OA53B   | 11*12*73 | 11*16*73 | 4/140A,B       | ( 47) | ARC 9X7-FT SUPERSONIC        | 747         |  |
| 2179    | PUBLISHED | OS8B    | 7*19*74  | 07*29*74 | HRSI TILE      | ( 81) | ARC 9X7-FT SUPERSONIC        | 705         |  |
| 2180    | PUBLISHED | IH28-2  | 5*20*74  | 05*24*74 | 2A/089B        | ( 50) | ARC 3.5-FT HYPERSONIC        | 195         |  |
| 2181    | PUBLISHED | TA9F    | 6* 3*74  | 06*15*74 | ET             | (466) | ARC 3.5-FT HYPERSONIC        | 196         |  |
| 2182    | PUBLISHED | LA49B   | 7*15*74  | 07*17*74 | 089B-MOD NOSE  | ( 0)  | LARC UNITARY PLAN            | 1111        |  |
| 2183    | PUBLISHED | LA51    | 5*24*74  | 05*31*74 | 140A,B         | ( 0)  | LARC 8-FT TRANSONIC PRESSURE | 684         |  |
| 2184    | PUBLISHED | LA48    | 4*10*74  | 04*15*74 | 089B-MOD NOSE  | ( 0)  | LARC 8-FT TRANSONIC PRESSURE | 680         |  |
| 2185    | PUBLISHED | OA53C   | 11*28*73 | 12*06*73 | 4/140A,B       | ( 47) | ARC 8X7-FT SUPERSONIC        | 747         |  |
| 2186    | PUBLISHED | OA116   | 6*10*74  | 06*14*74 | 4/140A,B       | ( 49) | LARC 8-FT TRANSONIC PRESSURE | 686         |  |
| 2187    | PUBLISHED | OA119A  | 6*17*74  | 06*25*74 | 4/140A,B       | ( 16) | RI 7X11-FT LOW SPEED         | 726         |  |
| 2188    | PUBLISHED | LA39C   | 4* 1*74  | 04*08*74 | 140A,B         | ( 0)  | LARC UNITARY PLAN            | 1075        |  |
| 2189    | PUBLISHED | IA110-2 | 7* 8*74  | 07*11*74 | 4/140A,B       | ( 67) | ARC 9X7-FT SUPERSONIC        | 052         |  |
| 2190    | PUBLISHED | OA108   | 6*24*74  | 07*09*74 | 5/140C         | ( 74) | MSFC 14-IN TRANSONIC         | 599         |  |
| 2191    | PUBLISHED | LA47C   | 7* 8*74  | 07*10*74 | 140A/B ORB     | ( 0)  | LARC 31-IN CONT-FLOW HYP.    | 104         |  |
| 2192    | PUBLISHED | IA87    | 7*18*74  | 07*20*74 | 3/139B         | ( 52) | AEDC A / SUPERSONIC          | 60A         |  |
| 2193    | PUBLISHED | OH26    | 7*22*74  | 07*29*74 | 4/140B         | ( 22) | ARC 3.5-FT HYPERSONIC        | 199         |  |
| 2194    | PUBLISHED | IA81B   | 8* 9*74  | 08*22*74 | 4/140A,B (MOD) | ( 47) | ARC 9X7-FT SUPERSONIC        | 019         |  |
| 2195    | PUBLISHED | OA82    | 8*12*74  | 08*16*74 | 4/140A,B       | ( 32) | LARC 31-IN CONT-FLOW HYP.    | 113         |  |

| DATAMAN |            | TEST   |  | TESTING             |        | MODEL          |       | WIND TUNNEL                  |  | NO.  |
|---------|------------|--------|--|---------------------|--------|----------------|-------|------------------------------|--|------|
| NO.     | STATUS     | NO.    |  | SCHED.              | COMPL. | REF.           | (ID)  | FACILITY                     |  |      |
| 2196    | PUBLISHED  | DA79   |  | 8* 1*74 - 08*03*74  |        | 4/140A,B(MOD)  | ( 49) | AEDC B / HYPERSONIC          |  | 71A  |
| 2197    | PUBLISHED  | FH10   |  | 1*21*74 - 01*29*74  |        | 3/139          | ( 22) | AEDC F / HYPERSONIC          |  | 291  |
| 2198    | PUBLISHED  | OA115A |  | 7*29*74 - 07*31*74  |        | 4/140A,B(MOD)  | ( 49) | AEDC A / SUPERSONIC          |  | 71A  |
| 2199    | PUBLISHED  | LA43B  |  | 3*18*74 - 03*27*74  |        | 4/140A,B       | ( 0)  | LARC UNITARY PLAN            |  | 1093 |
| 2200    | PUBLISHED  | LA44   |  | 4* 2*74 - 04*09*74  |        | 4/140A,B       | ( 0)  | LARC 8-FT TRANSONIC PRESSURE |  | 677  |
| 2201    | PUBLISHED  | CA3    |  | 8*15*74 - 08*30*74  |        | 4/140A,B/747   | ( 43) | UNIV. OF WASH. LOW SPEED     |  | 1136 |
| 2202    | PUBLISHED  | OA123  |  | 9* 6*74 - 09*10*74  |        | 4/140A,B (ALT) | ( 43) | RI 7X11-FT LOW SPEED         |  | 731  |
| 2203    | PUBLISHED  | OA119B |  | 8*22*74 - 09*06*74  |        | 4/140A,B       | ( 16) | RI 7X11-FT LOW SPEED         |  | 730  |
| 2204    | PUBLISHED  | IA43   |  | 8*26*74 - 09*03*74  |        | 4/140A,B       | ( 72) | LARC 8-FT TRANSONIC PRESSURE |  | 693  |
| 2205    | PUBLISHED  | OA109  |  | 8*26*74 - 08*29*74  |        | 5/140C         | ( 74) | LARC 22-IN HELIUM            |  | 431  |
| 2206    | PUBLISHED  | IA44B  |  | 8*19*74 - 08*23*74  |        | 4/140A,B       | ( 72) | LARC UNITARY PLAN            |  | 1119 |
| 2207    | PUBLISHED  | SA29F  |  | 8* 8*74 - 09*18*74  |        | SRB FORE BODY  | (467) | CALSPAN 32-IN LUDWIEG        |  | 033  |
| 2208    | PUBLISHED  | TA3F   |  | 9*27*74 - 10*11*74  |        | ET             | (470) | MSFC 14-IN TRANSONIC         |  | 609  |
| 2209    | PUBLISHED  | OA124  |  | 10*14*74 - 10*23*74 |        | 4/140A,B       | ( 43) | RI 7X11-FT LOW SPEED         |  | 736  |
| 2210    | PUBLISHED  | IH27   |  | 9* 7*74 - 09*25*74  |        | TPS TILES      | ( 15) | ARC 3.5-FT HYPERSONIC        |  | 200  |
| 2211    | PUBLISHED  | CA5    |  | 9*20*74 - 09*30*74  |        | 140A,B/747     | ( 45) | THE BOEING CO. - TRANSONIC   |  | 1431 |
| 2212    | PUBLISHED  | IA80   |  | 11* 4*74 - 11*08*74 |        | 5/140C         | ( 88) | ARC 11-FT TRANSONIC          |  | 023  |
| 2213    | IN PROCESS | LA54   |  | 8*14*74 - 08*19*74  |        | 140C ORB.      | ( 0)  | LARC 20-IN HYPERSONIC (M=6)  |  | 6456 |
| 2214    | PUBLISHED  | OA89   |  | 7*15*74 - 08*05*74  |        | 5/140C         | ( 74) | LARC HYPERSONIC NITROGEN     |  | 30   |
| 2215    | PUBLISHED  | LA58   |  | 9*30*74 - 10*04*74  |        | 140A,B         | ( 42) | LTV 4X4-FT SUPERSONIC        |  | 512  |
| 2216    | PUBLISHED  | SH12F  |  | 7*29*74 - 08*07*74  |        | SRB            | ( 0)  | LARC UNITARY PLAN            |  | 1115 |
| 2217    | PUBLISHED  | CA20   |  | 10* 9*74 - 10*15*74 |        | 140A,B/747     | ( 45) | THE BOEING CO. - TRANSONIC   |  | 1431 |
| 2218    | PUBLISHED  | TH1F   |  | 9* 1*74 - 09*09*74  |        | ET             | ( 0)  | AEDC F / HYPERSONIC          |  | 25A  |
| 2219    | PUBLISHED  | IA82C  |  | 11*11*74 - 11*15*74 |        | 5/140C         | ( 75) | ARC 8X7-FT SUPERSONIC        |  | 044  |
| 2220    | PUBLISHED  | LA52   |  | 8*26*74 - 08*30*74  |        | 140A,B         | ( 0)  | LARC 20-IN HYPERSONIC (M=6)  |  | 6458 |

| DATAMAN |            | TEST    |                     | TESTING |                | MODEL |                              | WIND TUNNEL |  | NO. |  |
|---------|------------|---------|---------------------|---------|----------------|-------|------------------------------|-------------|--|-----|--|
| NO.     | STATUS     | NO.     | SCHED.              | COMPL.  | REF.           | (ID)  | FACILITY                     | NO.         |  |     |  |
| 2221    | PUBLISHED  | 0A143   | 11* 6*74 - 11*11*74 |         | 4/140A,B       | ( 16) | RI 7X11-FT LOW SPEED         | 737         |  |     |  |
| 2222    | PUBLISHED  | 0H49B   | 7* 2*74 - 07*12*74  |         | 4/140B         | ( 22) | AEDC B / HYPERSONIC          | 57A         |  |     |  |
| 2223    | PUBLISHED  | SA8F    | 10*18*74 - 12*10*74 |         | SRB            | (471) | MSFC 14-IN TRANSONIC         | 604         |  |     |  |
| 2224    | PUBLISHED  | LA56    | 11*11*74 - 11*22*74 |         | VEH. 5         | ( 0)  | LARC 8-FT TRANSONIC PRESSURE | 699         |  |     |  |
| 2225    | PUBLISHED  | 0H4C    | 9*26*73 - 09*26*73  |         | 3/139B         | ( 21) | AEDC B / HYPERSONIC          | 352         |  |     |  |
| 2226    | PUBLISHED  | IA61B   | 2*26*74 - 02*26*74  |         | 3/139,089B     | ( 52) | AEDC A / SUPERSONIC          | 21AA        |  |     |  |
| 2227    | PUBLISHED  | IA71B-2 | 12*19*74 - 01*09*75 |         | 5/140C         | ( 74) | MSFC 14-IN TRANSONIC         | 610         |  |     |  |
| 2228    | PUBLISHED  | LA46B   | 9*24*74 - 10*10*74  |         | 140A,B ORB     | ( 0)  | LARC UNITARY PLAN            | 1117        |  |     |  |
| 2229    | PUBLISHED  | 0A102   | 6*17*74 - 06*18*74  |         | 4/140A,B       | ( 36) | LARC 8-FT TRANSONIC PRESSURE | 687         |  |     |  |
| 2230    | PUBLISHED  | IA17B   | 3*18*74 - 03*19*74  |         | 3/139B         | ( 52) | AEDC B / HYPERSONIC          | 422         |  |     |  |
| 2231    | PUBLISHED  | IA82B   | 1*28*75 - 02*04*75  |         | 5/140C         | ( 75) | ARC 9X7-FT SUPERSONIC        | 044         |  |     |  |
| 2232    | PUBLISHED  | 0A131   | 9*11*74 - 09*26*74  |         | 5/140C         | ( 74) | MSFC 14-IN TRANSONIC         | 607         |  |     |  |
| 2233    | PUBLISHED  | LA59    | 12*20*74 - 01*07*75 |         | 4/140A,B       | ( 72) | LARC 8-FT TRANSONIC PRESSURE | 703         |  |     |  |
| 2234    | PUBLISHED  | 0A113   | 8*10*74 - 10*04*74  |         | 4/140A,B       | ( 51) | CALSPAN HYPERSONIC SHOCK     | 184-        |  |     |  |
| 2235    | PUBLISHED  | SA30F   | 3* 3*75 - 03*13*75  |         | SRB            | (473) | MSFC 14-IN TRANSONIC         | 611         |  |     |  |
| 2236    | PUBLISHED  | CA11    | 2*12*75 - 02*20*75  |         | ET/747         | ( 0)  | UNIV. OF WASH. LOW SPEED     | 1146        |  |     |  |
| 2237    | IN PROCESS | 0A155   | 2*10*75 - 03*07*75  |         | 4/140A,B (MOD) | ( 47) | LARC V/STOL                  | 114         |  |     |  |
| 2238    | PUBLISHED  | 0A93    | 11*18*74 - 11*23*74 |         | 4/140A,B       | ( 51) | CALSPAN HYPERSONIC SHOCK     | 737         |  |     |  |
| 2239    | PUBLISHED  | LA38B   | 3*27*74 - 03*29*74  |         | 140A,B         | ( 0)  | LARC 8-FT TRANSONIC PRESSURE | 676         |  |     |  |
| 2240    | PUBLISHED  | IA41A   | 3*31*75 - 5*21*75   |         | 5/140C         | ( 60) | AEDC A / SUPERSONIC          | 4A          |  |     |  |
| 2241    | PUBLISHED  | 0H39B   | 1* 8*75 - 01*09*75  |         | 5/140C         | ( 60) | AEDC B / HYPERSONIC          | 74A         |  |     |  |
| 2242    | PUBLISHED  | IA111   | 3*21*75 - 03*28*75  |         | 3/139B         | ( 52) | AEDC A / SUPERSONIC          | A3A         |  |     |  |
| 2243    | PUBLISHED  | CA23A   | 3*21*75 - 04*17*75  |         | 140C(MOD)/747  | ( 48) | ARC 14-FT TRANSONIC          | 085         |  |     |  |
| 2244    | PUBLISHED  | SA28F-2 | 3*17*75 - 04*11*75  |         | SRB            | (469) | MSFC 14-IN TRANSONIC         | 603         |  |     |  |
| 2245    | PUBLISHED  | 0A161C  | 3*26*75 - 03*31*75  |         | 140A,B (MOD)   | ( 45) | ARC 8X7-FT SUPERSONIC        | 094         |  |     |  |



| DATAMAN<br>NO. | STATUS     | TEST<br>NO. | TESTING             |        | MODEL<br>REF.   | (ID)  | FACILITY                     | WIND TUNNEL | NO.  |
|----------------|------------|-------------|---------------------|--------|-----------------|-------|------------------------------|-------------|------|
|                |            |             | SCHED.              | COMPL. |                 |       |                              |             |      |
| 2246           |            | OA160       | 2* 5*75 - 02*08*75  |        | 4/140A,B        | ( 51) | AEDC F / HYPERSONIC          |             | 28A  |
| 2247           | PUBLISHED  | IH48        | 4*17*75 - 05*08*75  |        | 5/140C          | ( 60) | ARC 3.5-FT HYPERSONIC        |             | 211  |
| 2248           | PUBLISHED  | IH338       | 12* 5*74 - 12*19*74 |        | 5/140C          | ( 37) | CALSPAN HYPERSONIC SHOCK     |             | 131  |
| 2249           | PUBLISHED  | OH43        | 12* 2*73 - 12*21*73 |        | TPS TILES       | ( 15) | ARC 3.5-FT HYPERSONIC        |             | 182  |
| 2250           | PUBLISHED  | OH9         | 9*13*73 - 09*21*73  |        | 3/139           | ( 29) | AEDC B / HYPERSONIC          |             | 353  |
| 2251           | PUBLISHED  | OH25A       | 8*21*74 - 08*22*74  |        | 3/139B          | ( 21) | AEDC B / HYPERSONIC          |             | 83A  |
| 2252           | PUBLISHED  | IA125-2     | 4*25*75 - 05*22*75  |        | 5/140C(74TS)    | ( 77) | MSFC 14-IN TRANSONIC         |             | 622  |
| 2253           | PUBLISHED  | OA148       | 5* 5*75 - 05*17*75  |        | 4/140A,B (MOD)  | ( 47) | ARC 11-FT TRANSONIC          |             | 073  |
| 2254           | PUBLISHED  | AA3B        | 2* 1*71 - 02*15*71  |        | PRE-ATP         | ( 0)  | ARC 9X7-FT SUPERSONIC        |             | 608  |
| 2255           | PUBLISHED  | LA68        | 2*26*75 - 03*20*75  |        | 140C ORB        | ( 0)  | LARC 22-IN HELIUM            |             | 439  |
| 2256           | IN PROCESS | LA69        | 4*24*75 - 04*29*75  |        | 5/140C          | ( 72) | LARC 8-FT TRANSONIC PRESSURE |             | 714  |
| 2257           | PUBLISHED  | IA72        | 5*19*75 - 05*31*75  |        | 5/140C          | ( 88) | ARC 11-FT TRANSONIC          |             | 072  |
| 2258           | PUBLISHED  |             |                     |        |                 |       |                              |             |      |
| 2259           |            |             |                     |        |                 |       |                              |             |      |
| 2260           |            |             |                     |        |                 |       |                              |             |      |
| 2261           | PUBLISHED  | OA100       | 5*27*75 - 06*14*75  |        | OV101(ALT)      | ( 76) | ARC 40X80-FT SUBSONIC        |             | 462  |
| 2262           | PUBLISHED  | CA6         | 5*20*75 - 06*06*75  |        | 140A,B/747      | ( 45) | THE BOEING CO. - TRANSONIC   |             | 1472 |
| 2263           | PUBLISHED  | OH74        | 6* 3*75 - 06*12*75  |        | 5/140C          | ( 56) | AEDC B / HYPERSONIC          |             | 87A  |
| 2264           | PUBLISHED  | LA62        | 5*14*75 - 05*23*75  |        | 140C/REMOTE ELE | ( 44) | LARC 8-FT TRANSONIC PRESSURE |             | 717  |
| 2265           | PUBLISHED  | OA159       | 6*23*75 - 07*08*75  |        | 140A,B/(ALT)    | ( 45) | ARC 12-FT PRESSURE           |             | 078  |
| 2266           | PUBLISHED  | LA67        | 6*20*75 - 07*02*75  |        | 140C/REMOTE ELE | ( 44) | LTV 4X4-FT SUPERSONIC        |             | 552  |
| 2267           | PUBLISHED  | MA22        | 5* 6*75 - 06*03*75  |        | 4/140A,B        | ( 32) | LARC 31-IN CONT-FLOW HYP.    |             | 118  |
| 2268           | PUBLISHED  | CA9         | 6*25*75 - 07*14*75  |        | 4/140A,B/747    | ( 47) | THE BOEING CO. - TRANSONIC   |             | 1477 |
| 2269           | PUBLISHED  | LA70        | 7*28*75 - 08*06*75  |        | 140C/REMOTE ELE | ( 44) | CALSPAN 8-FT TRANSONIC       |             | 103  |
| 2270           | PUBLISHED  | LA63A       | 7*18*75 - 07*18*75  |        | 140C/REMOTE ELE | ( 44) | LARC UNITARY PLAN            |             | 1118 |

| DATAMAN |            | TEST   |                     | TESTING |                 | MODEL |                              | WIND TUNNEL |  |
|---------|------------|--------|---------------------|---------|-----------------|-------|------------------------------|-------------|--|
| NO.     | STATUS     | NO.    | SCHED.              | COMPL.  | REF.            | (ID)  | FACILITY                     | NO.         |  |
| 2271    | PUBLISHED  | LA71A  | 10*17*75 - 10*22*75 |         | 4/140A,B        | ( 69) | LARC UNITARY PLAN            | 1132        |  |
| 2272    | PUBLISHED  | IA114  | 8*18*75 - 08*22*75  |         | 5/140C          | ( 52) | AEDC B / HYPERSONIC          | C4A         |  |
| 2273    | PUBLISHED  | CA26   | 8* 4*75 - 08*15*75  |         | 140C(MOD)/747   | ( 48) | LTV 4X4-FT SUPERSONIC        | 559         |  |
| 2274    | PUBLISHED  | FA14   | 1* 9*75 - 07*06*75  |         | 5/140C          | ( 74) | MSFC 14-IN TRANSONIC         | 600         |  |
| 2275    | PUBLISHED  | CA23B  | 5* 1*75 - 07*22*75  |         | 140C(MOD)/747   | ( 48) | ARC 14-FT TRANSONIC          | 085         |  |
| 2276    | PUBLISHED  | FH13   | 9*22*75 - 09*25*75  |         | ET/SPIKE        | ( 0)  | AEDC A / SUPERSONIC          | E1A         |  |
| 2277    | PUBLISHED  | SA13F  | 9*30*74 - 06*17*75  |         | SRB             | (461) | MSFC 32-IN LUDWIG (HIGH RN)  | 034         |  |
| 2278    | CANCEL     | LA61A  | 8*25*75 - 09*10*75  |         | 140C/REMOTE ELE | ( 44) | LARC LOW TURBULANCE PRESSURE | 219         |  |
| 2279    | PUBLISHED  | LA63B  | 9*12*75 - 09*17*75  |         | 140C/REMOTE ELE | ( 44) | LARC UNITARY PLAN            | 1151        |  |
| 2280    | PUBLISHED  | LA28   | 6*17*74 - 06*20*74  |         | 140A,B ORB      | ( 0)  | LTV 4X4-FT SUPERSONIC        | 498         |  |
| 2281    | PUBLISHED  | LA66   | 10*20*75 - 10*24*75 |         | 140C/REMOTE ELE | ( 44) | ARC 12-FT PRESSURE           | 135         |  |
| 2282    | PUBLISHED  | IH34   | 5* 5*75 - 09*03*75  |         | 5/140C          | ( 19) | LERC 10X10-FT SUPERSONIC     | 038         |  |
| 2283    | PUBLISHED  | MA14   | 4*23*73 - 05*02*73  |         | 2A/089B(CAN)    | ( 95) | LTV 15X20-FT LOW SPEED       | 422         |  |
| 2284    | PUBLISHED  | IS2B   | 9*25*75 - 10*29*75  |         | 5/140C          | ( 84) | ARC 9X7-FT SUPERSONIC        | 113         |  |
| 2285    | PUBLISHED  | OH50A  | 3*29*74 - 04*11*74  |         | 5/140C          | ( 82) | AEDC B / HYPERSONIC          | 526         |  |
| 2286    | PUBLISHED  | QA220  | 11*11*75 - 11*21*75 |         | VEH 101 (ADS)   | ( 57) | ARC 14-FT TRANSONIC          | 150         |  |
| 2287    | IN PROCESS | OS13   | 11*24*75 - 11*26*75 |         | LRS1 TILE       | ( 85) | ARC 9X7-FT SUPERSONIC        | 166         |  |
| 2288    | PUBLISHED  | OH64   | 4*14*75 - 06*20*75  |         | 2A/089B         | ( 25) | LERC SPACE POWER FACILITY    | 0H64        |  |
| 2289    | PUBLISHED  | OA163A | 11*24*75 - 12*09*75 |         | 4/140A,B        | ( 16) | RI 7X11-FT LOW SPEED         | 751         |  |
| 2290    | PUBLISHED  | CA8    | 8*18*75 - 09*12*75  |         | 4/140A,B/747    | ( 43) | LARC V/STOL                  | 129         |  |
| 2291    | IN PROCESS | LA79   | 11*28*75 - 12*11*75 |         | 140C            | ( 0)  | NSWC HYPERVELOCITY LAB (#8A) | 1275        |  |
| 2292    | PUBLISHED  | LA36B  | 6* 3*75 - 06*05*75  |         | 140A,B          | ( 32) | LARC LOW TURBULANCE PRESSURE | 214         |  |
| 2293    | PUBLISHED  | IA40   | 6*23*76 - 06*29*76  |         | 5/140C          | ( 75) | AEDC A / SUPERSONIC          | 425         |  |
| 2294    | PUBLISHED  | QA172  | 12*15*75 - 01*13*76 |         | 4/140A,B(ALT)   | ( 43) | RI 7X11-FT LOW SPEED         | 752         |  |
| 2295    | PUBLISHED  | IH41B  | 12*11*75 - 01*09*76 |         | 5/140C          | ( 60) | AEDC A / SUPERSONIC          | 4A          |  |

| DATAMAN |           | TEST   |          | TESTING    |                 | MODEL |                              | WIND TUNNEL |  |
|---------|-----------|--------|----------|------------|-----------------|-------|------------------------------|-------------|--|
| NO.     | STATUS    | NO.    | SCHED.   | COMPL.     | REF.            | (ID)  | FACILITY                     | NO.         |  |
| 2296    | PUBLISHED | LA81   | 1*14*76  | - 01*23*76 | ORB/TC (ALT)    | ( 0)  | LARC LOW TURBULANCE PRESSURE | 229         |  |
| 2297    |           |        |          |            |                 |       |                              |             |  |
| 2298    | PUBLISHED | LA738  | 12*10*76 | - 12*13*75 | 4/140A,B        | ( 69) | LARC LOW TURBULANCE PRESSURE | 238         |  |
| 2299    | PUBLISHED | LA80   | 10* 6*75 | - 11*07*75 | 140C/747        | ( 88) | LARC 7X10-FT HIGH SPEED      | 999         |  |
| 2300    | PUBLISHED | LA618  | 1* 5*76  | - 01*14*76 | 140C/REMOTE ELE | ( 44) | LARC LOW TURBULANCE PRESSURE | 228         |  |
| 2301    | PUBLISHED | OH54A  | 10* 4*74 | - 10* 8*74 | 5/140C          | ( 82) | AEDC B / HYPERSONIC          | 82A         |  |
| 2302    | PUBLISHED | OA174  | 2* 2*76  | - 02*27*76 | OV101(ALT)      | ( 76) | ARC 40X80-FT SUBSONIC        | 479         |  |
| 2303    | PUBLISHED | OH75   | 9* 2*75  | - 09*03*75 | 5/140C          | ( 82) | AEDC B / HYPERSONIC          | E3A         |  |
| 2304    | PUBLISHED | OA173  | 3*15*76  | - 03*26*76 | 140C(ALT)       | ( 45) | ARC 12-FT PRESSURE           | 180         |  |
| 2305    | PUBLISHED | LA76   | 2*25*76  | - 03*06*76 | 140C/REMOTE ELE | ( 44) | LTV 4X4-FT SUPERSONIC        | 573         |  |
| 2306    | PUBLISHED | IA135C | 3*12*76  | - 03*23*76 | 4/140A,B (MOD)  | ( 47) | ARC 8X7-FT SUPERSONIC        | 144         |  |
| 2307    | PUBLISHED | CA14   | 11*13*75 | - 12*02*75 | 140A,B/747      | ( 45) | THE BOEING CO. - TRANSONIC   | 1496        |  |
| 2308    | PUBLISHED | IH5    | 1*21*74  | - 07*22*74 | 2A/O89B         | ( 19) | CALSPAN 32-IN LUDWIG         | 181         |  |
| 2309    | PUBLISHED | LA72   | 3*26*76  | - 03*31*76 | 4/140A,B        | ( 69) | LARC 8-FT TRANSONIC PRESSURE | 740         |  |
| 2310    | PUBLISHED | SA14FB | 1* 6*76  | - 01*11*76 | SRB             | (486) | MSFC 14-IN TRANSONIC         | 640         |  |
| 2311    | PUBLISHED | LA88   | 5*21*75  | - 05*21*75 | O89B            | ( 13) | LARC 20-IN HYPERSONIC (M=6)  | 6468        |  |
| 2312    | PUBLISHED | IH47   | 3* 8*76  | - 03*19*76 | 5/140C          | ( 60) | AEDC A / SUPERSONIC          | J3A         |  |
| 2313    | PUBLISHED | FH14   | 3*15*76  | - 04*05*76 | ET/SPIKE        | ( 0)  | ARC 3.5-FT HYPERSONIC        | 215         |  |
| 2314    | PUBLISHED | OA176  | 3*29*76  | - 04*15*76 | 4/140A,B(ALT)   | ( 43) | RI 7X11-FT LOW SPEED         | 754         |  |
| 2315    | PUBLISHED | IA141  | 3*31*76  | - 04*05*76 | 5/140C          | ( 72) | RI 7-FT TRISONIC             | 297         |  |
| 2316    | PUBLISHED | IA137  | 4*26*76  | - 05*03*76 | ET FORETANK     | ( 68) | ARC 14-FT TRANSONIC          | 143         |  |
| 2317    | PUBLISHED | OH538  | 4*14*76  | - 04*23*76 | 5/140C          | ( 82) | ARC 3.5-FT HYPERSONIC        | 216         |  |
| 2318    | PUBLISHED | LA75   | 4* 6*76  | - 04*16*76 | 140C/REMOTE ELE | ( 44) | LARC UNITARY FLAN            | 1173        |  |
| 2319    | PUBLISHED | IH43   | 12*17*75 | - 02*23*76 | 5/140C          | ( 59) | CALSPAN HYPERSONIC SHOCK     | 189         |  |
| 2320    | PUBLISHED | OA169  | 3*26*76  | - 04*09*76 | 5/140C          | ( 70) | AEDC B / HYPERSONIC          | D8A         |  |

| DATAMAN |            | TEST   |  | TESTING             |        | MODEL            |       | WIND TUNNEL                  |  | NO.  |
|---------|------------|--------|--|---------------------|--------|------------------|-------|------------------------------|--|------|
| NO.     | STATUS     | NO.    |  | SCHED.              | COMPL. | REF.             | (ID)  | FACILITY                     |  |      |
| 2321    | PUBLISHED  | OH69   |  | 11*14*75 - 12*11*75 |        | 5/140C           | ( 82) | AEDC B / HYPERSONIC          |  | E9A  |
| 2322    | PUBLISHED  | OA228  |  | 5*29*76 - 05*01*76  |        | VEH 102 (ADS)    | ( 57) | RI 7X11-FT LOW SPEED         |  | 757  |
| 2323    | PUBLISHED  | IA94A  |  | 4*18*76 - 04*23*76  |        | 5/140C           | ( 72) | LARC UNITARY PLAN            |  | 1152 |
| 2324    | PUBLISHED  | IA94B  |  | 4*26*76 - 05*04*76  |        | 5/140C           | ( 72) | LARC UNITARY PLAN            |  | 1177 |
| 2325    | PUBLISHED  | SA14FA |  | 12*23*75 - 03*19*76 |        | SRB              | (449) | MSFC 14-IN TRANSONIC         |  | 620  |
| 2326    | PUBLISHED  | IA93   |  | 5*10*76 - 05*14*76  |        | 5/140C           | ( 72) | LARC 8-FT TRANSONIC PRESSURE |  | 749  |
| 2327    | PUBLISHED  | IA22   |  | 5* 3*76 - 05*08*76  |        | 5/140C           | ( 70) | AEDC B / HYPERSONIC          |  | 59A  |
| 2328    | PUBLISHED  | LA34   |  | 1*17*74 - 01*31*74  |        | F. S. TILE ARRAY | ( 0)  | LARC 31-IN CONT-FLOW HYP.    |  | 105  |
| 2329    | PUBLISHED  | OA224  |  | 2*23*76 - 03*24*76  |        | VEH 102 (ADS)    | ( 57) | LARC 16-FT TRANSONIC         |  | 512  |
| 2330    | PUBLISHED  | CH52   |  | 5* 6*74 - 05*15*74  |        | 3/139B           | ( 29) | AEDC B / HYPERSONIC          |  | 524  |
| 2331    | PUBLISHED  | SA11FC |  | 3*29*76 - 04*14*76  |        | SRB              | (483) | ARC 8X7-FT SUPERSONIC        |  | 074  |
| 2332    | PUBLISHED  | CA13   |  | 6* 8*76 - 07*01*76  |        | 140C(ALT)/747    | ( 45) | ARC 14-FT TRANSONIC          |  | 121  |
| 2333    | PUBLISHED  | OA175  |  | 6*28*76 - 07*09*76  |        | 140A.B (ALT)     | ( 47) | ARC 11-FT TRANSONIC          |  | 187  |
| 2334    | PUBLISHED  | SA16F  |  | 5* 5*76 - 05*06*76  |        | SRB              | (486) | AEDC 4-FT TRANSONIC          |  | 445  |
| 2335    | PUBLISHED  | IA140B |  | 10* 1*76 - 01*28*77 |        | 5/140C           | ( 74) | MSFC 14-IN TRANSONIC         |  | 646  |
| 2336    | PUBLISHED  | LA145B |  | 9*11*81 - 09*17*81  |        | 140C             | (203) | LARC UNITARY PLAN            |  | 1345 |
| 2337    | PUBLISHED  | OA236  |  | 5*28*76 - 06*02*76  |        | ADS PROBES       | ( 99) | RI 7X11-FT LOW SPEED         |  | 759  |
| 2338    | PUBLISHED  | CS3    |  | 9*12*75 - 09*15*75  |        | 140A.B/747       | ( 8)  | UNIV. OF WASH. LOW SPEED     |  | 1170 |
| 2339    | IN PROCESS | OS32   |  | 7*15*76 - 07*27*76  |        | TILE PANEL       | ( 35) | ARC 2X2-FT TRANSONIC         |  | 167  |
| 2340    | PUBLISHED  | OH98B  |  | 7*26*76 - 07*26*76  |        | 5/140C           | ( 60) | AEDC B / HYPERSONIC          |  | J74  |
| 2341    | PUBLISHED  | CS5    |  | 11* 3*75 - 11*05*75 |        | 140A.B/747       | ( 45) | THE BOEING CO. - TRANSONIC   |  | 1493 |
| 2342    | PUBLISHED  | OH54C  |  | 8*26*75 - 09*02*75  |        | 5/140C           | ( 82) | AEDC B / HYPERSONIC          |  | 82A  |
| 2343    | PUBLISHED  | LA85   |  | 4* 7*76 - 05*24*76  |        | 140C             | ( 13) | LARC 22-IN HELIUM            |  | 445  |
| 2344    | PUBLISHED  | LA77   |  | 7* 9*76 - 07*24*76  |        | 140C/REMOTE ELE  | ( 44) | ARC 11-FT TRANSONIC          |  | 200  |
| 2345    | PUBLISHED  | SA21F  |  | 9*16*76 - 10*06*76  |        | SRB              | (486) | MSFC 14-IN TRANSONIC         |  | 645  |

| DATAMAN |            | TESTING  |                     | MODEL  |                 | WIND TUNNEL |                              |
|---------|------------|----------|---------------------|--------|-----------------|-------------|------------------------------|
| NO.     | STATUS     | TEST NO. | SCHED.              | COMPL. | REF.            | (ID)        | FACILITY                     |
| 2346    | PUBLISHED  | 1A142    | 8*11*76 - 08*18*76  |        | 5/140C          | ( 75)       | AEDC A / SUPERSONIC          |
| 2347    | PUBLISHED  | CA15A    | 10*16*75 - 11*01*75 |        | 4/140A,B/747    | ( 43)       | UNIV. OF WASH. LOW SPEED     |
| 2348    | PUBLISHED  | CA15B    | 11*19*75 - 11*26*75 |        | 4/140A,B/747    | ( 43)       | UNIV. OF WASH. LOW SPEED     |
| 2349    | PUBLISHED  | CA17     | 6*21*76 - 07*02*76  |        | 4/140A,B/747    | ( 43)       | UNIV. OF WASH. LOW SPEED     |
| 2350    | PUBLISHED  | OH46     | 11*12*73 - 12*07*73 |        | 4/140B          | ( 90)       | LARC MACH 8 VARIABLE DENSITY |
| 2351    | PUBLISHED  | OA238    | 10*25*76 - 11*08*76 |        | ADS PROBES      | ( 99)       | RI 7X11-FT LOW SPEED         |
| 2352    | PUBLISHED  | LA91     | 9* 3*76 - 09*15*76  |        | 140C/REMOTE ELE | ( 44)       | LARC 8-FT TRANSONIC PRESSURE |
| 2353    | PUBLISHED  | LA89     | 10* 4*76 - 10*18*76 |        | OV101 (ALT)     | (201)       | ARC 11-FT TRANSONIC          |
| 2354    | PUBLISHED  | 1A143    | 11* 8*76 - 11*13*76 |        | 5/140C          | ( 75)       | AEDC A / SUPERSONIC          |
| 2355    | PUBLISHED  | OH49A    | 4* 3*74 - 04*06*74  |        | 3/139B          | ( 22)       | AEDC B / HYPERSONIC          |
| 2356    | PUBLISHED  | OH60     | 5*12*75 - 05*12*75  |        | 5/140C          | ( 83)       | AEDC B / HYPERSONIC          |
| 2357    | PUBLISHED  | IH68     | 10*12*76 - 12*08*76 |        | 5/140C          | ( 60)       | ARC 3.5-FT HYPERSONIC        |
| 2358    | PUBLISHED  | OH50B    | 7*12*74 - 07*17*74  |        | 5/140C          | ( 83)       | AEDC B / HYPERSONIC          |
| 2359    | PUBLISHED  | OH66     | 8*30*76 - 10*17*76  |        | 5/140C          | ( 66)       | CALSPAN HYPERSONIC SHOCK     |
| 2360    | PUBLISHED  | OA221C   | 11*15*76 - 11*22*75 |        | ADS PROBES      | ( 99)       | ARC 8X7-FT SUPERSONIC        |
| 2361    | PUBLISHED  | OA163B   | 12*21*76 - 12*23*76 |        | 4/140A,B        | ( 16)       | RI 7X11-FT LOW SPEED         |
| 2362    | IN PROCESS | LA92     | 11*11*76 - 11*19*76 |        | OV101           | (201)       | LARC 8-FT TRANSONIC PRESSURE |
| 2363    | PUBLISHED  | OS7      | 8*12*74 - 08*30*74  |        | 4/140B          | ( 55)       | LARC 16-FT TRANSONIC DYNAMIC |
| 2364    | PUBLISHED  | OA145B   | 4*15*77 - 05*03*77  |        | VEH 102         | ( 39)       | ARC 9X7-FT SUPERSONIC        |
| 2365    | PUBLISHED  | OS6      | 9* 2*74 - 09*12*74  |        | 4/140B          | ( 54)       | LARC 16-FT TRANSONIC DYNAMIC |
| 2366    | PUBLISHED  | OH25B    | 1*30*75 - 02*03*75  |        | 5/140C          | ( 56)       | AEDC B / HYPERSONIC          |
| 2367    | PUBLISHED  | OH57B    | 12* 4*76 - 12*05*76 |        | 140C            | ( 92)       | AEDC B / HYPERSONIC          |
| 2368    | PUBLISHED  | OH51-3   | 6*26*74 - 07*03*74  |        | 4/140B          | ( 90)       | LARC 31-IN CONT-FLOW HYP.    |
| 2369    | PUBLISHED  | SA31F    | 4*27*76 - 02*01*77  |        | SRB             | (487)       | MSFC 32-IN LUDWIG (HIGH RN)  |
| 2370    | PUBLISHED  | OA149C   | 2*16*77 - 02*18*77  |        | 5/140C          | ( 47)       | ARC 8X7-FT SUPERSONIC        |

| DATAMAN |            | TEST    |                     | TESTING |                 | MODEL |                              | WIND TUNNEL |      | NO. |  |
|---------|------------|---------|---------------------|---------|-----------------|-------|------------------------------|-------------|------|-----|--|
| NO.     | STATUS     | NO.     | SCHED.              | COMPL.  | REF.            | (ID)  | FACILITY                     |             |      |     |  |
| 2371    | PUBLISHED  | OH78    | 7* 2*76 - 11*24*76  |         | 5/140C          | ( 65) | JSC VAC. CHAMBER A           |             | 56-A |     |  |
| 2372    | PUBLISHED  | IH72    | 1* 3*77 - 01*10*77  |         | 5/140C          | ( 60) | AEDC A / SUPERSONIC          |             | K2A  |     |  |
| 2373    | PUBLISHED  | LA99    | 2*17*77 - 02*28*77  |         | TAILCONE        | (201) | LARC 8-FT TRANSONIC PRESSURE |             | 769  |     |  |
| 2374    | PUBLISHED  | LA103   | 3*25*77 - 04*04*77  |         | SUPPORT TARES   | ( 0)  | CALSPAN 8-FT TRANSONIC       |             | 113  |     |  |
| 2375    | PUBLISHED  | OA237   | 1*24*77 - 01*31*77  |         | ADS PROBES      | ( 99) | ARC 40X80-FT SUBSONIC        |             | 500  |     |  |
| 2376    | PUBLISHED  | OA149A  | 2*24*77 - 03*04*77  |         | 5/140C          | ( 47) | ARC 11-FT TRANSONIC          |             | 115  |     |  |
| 2377    | PUBLISHED  | IA144   | 4* 6*77 - 04*15*77  |         | 5/140C          | ( 72) | ARC 11-FT TRANSONIC          |             | 228  |     |  |
| 2378    | PUBLISHED  | IA191   | 6*20*80 - 06*27*80  |         | FUEL LINE       | (112) | ARC 11-FT TRANSONIC          |             | 412  |     |  |
| 2379    |            |         |                     |         |                 |       |                              |             |      |     |  |
| 2380    | PUBLISHED  | OA145A  | 3* 8*77 - 04*02*77  |         | VEH 102         | ( 39) | ARC 11-FT TRANSONIC          |             | 118  |     |  |
| 2381    |            |         |                     |         |                 |       |                              |             |      |     |  |
| 2382    | PUBLISHED  | OH8F    | 5*15*74 - 07*16*74  |         | 2A/O898         | ( 25) | MSFC IMPULSE BASE FLOW FAC.  |             | 027  |     |  |
| 2383    | IN PROCESS | LA93    | 3*16*77 - 04*21*77  |         | NOSE CONE       | ( 0)  | LARC 31-IN CONT-FLOW HYP.    |             | 130  |     |  |
| 2384    | PUBLISHED  | IA148   | 4*27*77 - 05*03*77  |         | 5/140C          | ( 70) | AEDC B / HYPERSONIC          |             | TOA  |     |  |
| 2385    | PUBLISHED  | OH15    | 9*12*73 - 09*20*73  |         | FLAT PLATE      | ( 53) | ARC 3.5-FT HYPERSONIC        |             | 173  |     |  |
| 2386    | PUBLISHED  | OH44    | 10*24*73 - 10*30*73 |         | FLAT PLATE      | ( 53) | ARC 3.5-FT HYPERSONIC        |             | 177  |     |  |
| 2387    |            |         |                     |         |                 |       |                              |             |      |     |  |
| 2388    | PUBLISHED  | OH84A-2 | 4*20*77 - 04*21*77  |         | 5/140C          | ( 83) | AEDC B / HYPERSONIC          |             | R4A  |     |  |
| 2389    | PUBLISHED  | OA145C  | 4* 6*77 - 04*20*77  |         | VEH 102         | ( 39) | ARC 8X7-FT SUPERSONIC        |             | 118  |     |  |
| 2390    | PUBLISHED  | LA101   | 5*18*77 - 05*24*77  |         | 140C/REMOTE ELE | ( 44) | LARC UNITARY PLAN            |             | 1194 |     |  |
| 2391    | PUBLISHED  | IA244   | 5*24*77 - 06*01*77  |         | 5/140C          | ( 72) | LARC 8-FT TRANSONIC PRESSURE |             | 779  |     |  |
| 2392    | PUBLISHED  | OA250   | 7* 1*77 - 07*07*77  |         | 140C(ALT)       | ( 45) | RI 7X11-FT LOW SPEED         |             | 775  |     |  |
| 2393    | PUBLISHED  | IH51A   | 7*14*77 - 07*27*77  |         | FLAT PLATE      | ( 58) | ARC 3.5-FT HYPERSONIC        |             | 228  |     |  |
| 2394    |            |         |                     |         |                 |       |                              |             |      |     |  |
| 2395    | PUBLISHED  | LA111   | 8* 3*77 - 08*05*77  |         | 140C SILTS      | ( 44) | LARC 8-FT TRANSONIC PRESSURE |             | 786  |     |  |

| DATAMAN |           | TEST   |  | TESTING  |          | MODEL           |       | WIND TUNNEL                  |      | NO. |
|---------|-----------|--------|--|----------|----------|-----------------|-------|------------------------------|------|-----|
| NO.     | STATUS    | NO.    |  | SCHED.   | COMPL.   | REF.            | (ID)  | FACILITY                     |      |     |
| 2396    | PUBLISHED | LA110  |  | 8* 8*77  | 08*10*77 | 140C SILTS      | ( 44) | LARC UNITARY PLAN            | 1212 |     |
| 2397    | PUBLISHED | LA113  |  | 8* 5*77  | 09*08*77 | 5/140C          | ( 72) | LARC 8-FT TRANSONIC PRESSURE | 787  |     |
| 2398    | PUBLISHED | IA105A |  | 9* 2*77  | 11*20*77 | 5/140C          | ( 47) | AEDC 16-FT TRANSONIC         | 470  |     |
| 2399    | PUBLISHED | LA114  |  | 8*23*77  | 08*31*77 | 140C SILTS      | ( 44) | LARC UNITARY PLAN            | 1217 |     |
| 2400    | PUBLISHED | OA234  |  | 6* 7*77  | 08*11*77 | ADS PROBES      | ( 99) | LERC 10X10-FT SUPERSONIC     | 042  |     |
| 2401    | PUBLISHED | IS1C   |  | 8* 9*73  | 08*11*73 | 2A/089B         | ( 11) | ARC 8X7-FT SUPERSONIC        | 705  |     |
| 2402    | PUBLISHED | OA223  |  | 11*20*76 | 11*30*76 | VEH 102         | ( 39) | RI 7X11-FT LOW SPEED         | 776  |     |
| 2403    | PUBLISHED | IA156A |  | 10*28*77 | 11*10*77 | VEH 102         | ( 89) | AEDC 16-FT TRANSONIC         | 470  |     |
| 2404    | PUBLISHED | IA119  |  | 10* 7*77 | 10*31*77 | 5/140C          | ( 88) | ARC 11-FT TRANSONIC          | 275  |     |
| 2405    | PUBLISHED | OA101  |  | 9*13*77  | 11*11*77 | VEH 102         | ( 39) | ARC 12-FT PRESSURE           | 218  |     |
| 2406    | PUBLISHED | IA181  |  | 12*15*77 | 02*03*78 | 5/140C          | ( 74) | MSFC 14-IN TRANSONIC         | 649  |     |
| 2407    | PUBLISHED | IH73   |  | 12* 1*77 | 01*23*78 | 5/140C          | ( 50) | ARC 3.5-FT HYPERSONIC        | 233  |     |
| 2408    | PUBLISHED | IA156B |  | 12*16*77 | 01*06*78 | VEH 102         | ( 89) | ARC 9X7-FT SUPERSONIC        | 272  |     |
| 2409    | PUBLISHED | LA115  |  | 2* 1*78  | 02*06*78 | 140C/REMOTE ELE | ( 44) | LARC 8-FT TRANSONIC PRESSURE | 803  |     |
| 2410    | PUBLISHED | OH56   |  | 12* 6*77 | 12*10*77 | WING TIP SEAL   | ( 91) | AEDC B / HYPERSONIC          | R3A  |     |
| 2411    | CANCEL    | LA116  |  | 2* 6*78  | 02*06*78 | 140C            | (201) | LARC 8-FT TRANSONIC PRESSURE | 804  |     |
| 2412    | PUBLISHED | IH90   |  | 1*30*78  | 03*10*78 | 5/140C          | ( 60) | ARC 3.5-FT HYPERSONIC        | 234  |     |
| 2413    | PUBLISHED | IA105B |  | 1* 9*78  | 02*01*78 | 5/140C          | ( 47) | ARC 9X7-FT SUPERSONIC        | 242  |     |
| 2414    | PUBLISHED | OA232  |  | 2*17*78  | 03*01*78 | ADS PROBES      | ( 99) | AEDC 16-FT TRANSONIC         | 431  |     |
| 2415    | PUBLISHED | OA209  |  | 3*21*78  | 03*30*78 | VEH. 102        | (105) | AEDC A / SUPERSONIC          | P5A  |     |
| 2416    | PUBLISHED | OA208  |  | 3*30*78  | 04*06*78 | VEH. 102        | (105) | AEDC B / HYPERSONIC          | P5A  |     |
| 2417    | PUBLISHED | OH58   |  | 3*24*78  | 04*21*78 | ELEV/ELEV SEAL  | ( 93) | ARC 3.5-FT HYPERSONIC        | 235  |     |
| 2418    | PUBLISHED | IH100  |  | 6*20*77  | 06*23*77 | GAS TEMP PROBE  | ( 0)  | ARC 3.5-FT HYPERSONIC        | 227  |     |
| 2419    | PUBLISHED | OA270C |  | 4* 8*78  | 04*28*78 | VEH 102         | (104) | LARC 16-FT TRANSONIC         | 325  |     |
| 2420    | PUBLISHED | OH103A |  | 2*20*78  | 02*21*78 | VEH. 5 F'BODY   | ( 83) | AEDC B / HYPERSONIC          | V2C  |     |

| DATAMAN |           | TEST   |          | TESTING  |            | MODEL |                          | WIND TUNNEL |  |
|---------|-----------|--------|----------|----------|------------|-------|--------------------------|-------------|--|
| NO.     | STATUS    | NO.    | SCHED.   | COMPL.   | REF.       | (ID)  | FACILITY                 | NO.         |  |
| 2421    | PUBLISHED | 0A251C | 5*29*78  | 06*15*78 | ADS PROBES | ( 99) | ARC 8X7-FT SUPERSONIC    | 282         |  |
| 2422    | PUBLISHED | FH15   | 5* 1*78  | 05*05*78 | ET/SPIKE   | ( 0)  | AEDC A / SUPERSONIC      | 420         |  |
| 2423    | PUBLISHED | FH16   | 7* 1*78  | 07*15*78 | ET/SPIKE   | ( 0)  | ARC 3.5-FT HYPERSONIC    | 247         |  |
| 2424    | PUBLISHED | 0A126A | 5* 1*78  | 05*30*78 | 5/140C     | ( 47) | ARC 11-FT TRANSONIC      | 289         |  |
| 2425    |           |        |          |          |            |       |                          |             |  |
| 2426    | PUBLISHED | LA124  | 6* 7*77  | 06*10*77 | 5/140C     | ( 74) | LARC UNITARY PLAN        | 1207        |  |
| 2427    | PUBLISHED | OH103B | 4*27*78  | 04*28*78 | 5/140C     | ( 60) | AEDC D / HYPERSONIC      | V2C         |  |
| 2428    | PUBLISHED | IH11   | 4* 1*78  | 04*18*78 | 5/140C     | ( 84) | LERC 10X10-FT SUPERSONIC | 045         |  |
| 2429    | PUBLISHED | IH51B  | 7*15*78  | 07*24*78 | FLAT PLATE | ( 58) | ARC 3.5-FT HYPERSONIC    | 239         |  |
| 2430    | PUBLISHED | 0A270A | 5*15*78  | 06*09*78 | VEH 102    | ( 39) | LARC 16-FT TRANSONIC     | 325         |  |
| 2431    | PUBLISHED | IH85   | 4*19*78  | 04*26*78 | 5/140C     | ( 60) | AEDC A / SUPERSONIC      | W5          |  |
| 2432    | PUBLISHED | LA125  | 7* 3*78  | 07*05*78 | VEH. 102   | (105) | LARC UNITARY PLAN        | 1243        |  |
| 2433    | PUBLISHED | 0A171  | 6* 5*78  | 06*22*78 | VEH. 102   | (105) | NSWC HYPERSONIC LAB (#9) | 1310        |  |
| 2434    | PUBLISHED | 0A129  | 7* 7*78  | 07*15*78 | VEH102     | ( 47) | AEDC 16-FT TRANSONIC     | 507         |  |
| 2435    | PUBLISHED | IH39   | 9*22*76  | 04*14*77 | 5/140C     | ( 19) | LERC 10X10-FT SUPERSONIC | 041         |  |
| 2436    |           |        |          |          |            |       |                          |             |  |
| 2437    | PUBLISHED | FA25   | 4*15*78  | 08*01*78 | 5/140C     | ( 74) | MSFC 14-IN TRANSONIC     | 652         |  |
| 2438    | PUBLISHED | IA138  | 8*21*78  | 09*01*78 | 5/140C     | ( 75) | ARC 9X7-FT SUPERSONIC    | 246         |  |
| 2439    | PUBLISHED | IA182  | 9*19*78  | 09*20*78 | 5/140C     | ( 47) | AEDC 16-FT TRANSONIC     | 517         |  |
| 2440    | PUBLISHED | IH83   | 1*25*78  | 03*10*78 | 5/140C     | ( 19) | LERC 10X10-FT SUPERSONIC | 044         |  |
| 2441    |           |        |          |          |            |       |                          |             |  |
| 2442    |           |        |          |          |            |       |                          |             |  |
| 2443    | PUBLISHED | OH79   | 6* 1*78  | 08*24*78 | 5/140C     | ( 65) | JSC VAC. CHAMBER A       | 61-A        |  |
| 2444    | PUBLISHED | IA183  | 11*15*78 | 11*16*78 | VEH 102    | ( 89) | AEDC 16-FT TRANSONIC     | 519         |  |
| 2445    | PUBLISHED | 0A146  | 11*28*78 | 12*07*78 | 5/140C     | ( 47) | ARC 8X7-FT SUPERSONIC    | 318         |  |



| DATAMAN |            | TEST    | TESTING             |        | MODEL       |       | WIND TUNNEL                 |      |
|---------|------------|---------|---------------------|--------|-------------|-------|-----------------------------|------|
| NO.     | STATUS     | NO.     | SCHED.              | COMPL. | REF.        | (ID)  | FACILITY                    | NO.  |
| 2446    |            |         |                     |        |             |       |                             |      |
| 2447    |            |         |                     |        |             |       |                             |      |
| 2448    | PUBLISHED  | IH51C   | 12*26*78 - 02*16*79 |        | FLAT PLATE  | ( 58) | ARC 3.5-FT HYPERSONIC       | 241  |
| 2449    | PUBLISHED  | IA132   | 11*27*78 - 12*14*78 |        | ET FORETANK | ( 68) | AEDC 16-FT TRANSONIC        | 505  |
| 2450    | PUBLISHED  | OS12    | 1*11*76 - 01*29*76  |        | LRSI TILE   | ( 85) | ARC 2X2-FT TRANSONIC        | 116  |
| 2451    | PUBLISHED  | OH90    | 3* 2*78 - 03*11*78  |        | ELEV/ELEV   | ( 94) | AEDC B / HYPERSONIC         | P4A  |
| 2452    | PUBLISHED  | IH99    | 8*28*77 - 09*07*77  |        | 5/140C      | ( 98) | ARC 3.5-FT HYPERSONIC       | 230  |
| 2453    | PUBLISHED  | IH75    | 10* 3*77 - 12*12*77 |        | 5/140C      | ( 19) | CALSPAN 32-IN LUDWIG        | 100  |
| 2454    | PUBLISHED  | LA57B   | 6* 4*75 - 06*06*75  |        | 140A,B      | ( 0)  | LARC 31-IN CONT-FLOW HYP.   | 114  |
| 2455    | PUBLISHED  | OH102A  | 10*25*78 - 11*29*78 |        | 5/140C      | ( 56) | AEDC B / HYPERSONIC         | B65  |
| 2456    | PUBLISHED  | IA184   | 4* 2*79 - 04*13*79  |        | 5/140C      | ( 47) | ARC 9X7-FT SUPERSONIC       | 347  |
| 2457    | PUBLISHED  | IA180   | 3*26*79 - 03*30*79  |        | ET FORETANK | ( 68) | LARC UNITARY PLAN           | 1267 |
| 2458    | PUBLISHED  | OS41    | 4*18*79 - 04*20*79  |        | LRSI TILES  | ( 96) | ARC 11-FT TRANSONIC         | 369  |
| 2459    |            |         |                     |        |             |       |                             |      |
| 2460    | IN PROCESS | FA27    | 3*14*79 - 05*16*79  |        | 5/140C      | ( 74) | MSFC 14-IN TRANSONIC        | 655  |
| 2461    | PUBLISHED  | IH51D   | 5* 1*79 - 06*00*79  |        | FLAT PLATE  | ( 58) | ARC 3.5-FT HYPERSONIC       | 244  |
| 2462    | PUBLISHED  | IA131C  | 3* 5*79 - 03*11*79  |        | ET FORETANK | ( 68) | ARC 8X7-FT SUPERSONIC       | 283  |
| 2463    | PUBLISHED  | OS42    | 7* 2*79 - 07*05*79  |        | TPS TILES   | ( 96) | ARC 11-FT TRANSONIC         | 380  |
| 2464    | PUBLISHED  | IH102-3 | 5* 1*79 - 06*01*79  |        | 5/140C      | ( 83) | AEDC A / SUPERSONIC         | B67  |
| 2465    | PUBLISHED  | OS57    | 8*26*81 - 08*27*81  |        | TILE        | ( 81) | ARC 9X7-FT SUPERSONIC       | 508  |
| 2466    | PUBLISHED  | OA257   | 3*12*81 - 04*20*81  |        | VEH 102     | ( 72) | LARC 20-IN HYPERSONIC (M=6) | 6559 |
| 2467    | PUBLISHED  | IH103-2 | 10*15*79 - 11*01*79 |        | 5/140C      | ( 56) | ARC 3.5-FT HYPERSONIC       | 245  |
| 2468    | PUBLISHED  | OH105B  | 7*23*79 - 08*01*79  |        | 5/140C      | ( 60) | ARC 3.5-FT HYPERSONIC       | 247  |
| 2469    |            |         |                     |        |             |       |                             |      |
| 2470    | PUBLISHED  | OS45    | 9* 3*79 - 09*03*79  |        | TPS TILES   | ( 96) | ARC 11-FT TRANSONIC         | 381  |

| DATAMAN |            | TEST NO. | TESTING             |        | MODEL      | FACILITY                    | WIND TUNNEL | NO.  |
|---------|------------|----------|---------------------|--------|------------|-----------------------------|-------------|------|
| NO.     | STATUS     |          | SCHED.              | COMPL. |            |                             |             |      |
| 2471    | PUBLISHED  | LA132    | 10*11*79 - 11*01*79 |        | VEH 102    | LARC 16-FT TRANSONIC        | ( 89 )      | 341  |
| 2472    | PUBLISHED  | OH400    | 8* 1*79 - 09*01*79  |        | 140C SILTS | ARC 11-FT TRANSONIC         | ( 92 )      | B65  |
| 2473    | PUBLISHED  | OA252    | 10*16*79 - 11*14*79 |        | TILE       | ARC 2X2-FT TRANSONIC        | (107)       | 382  |
| 2474    | PUBLISHED  | FA28     | 8* 1*79 - 09*01*79  |        | 5/140C     | MSFC 14-IN TRANSONIC        | ( 74 )      | 656  |
| 2475    | PUBLISHED  | LA140    | 12*26*79 - 01*03*80 |        | VEH. 102   | LARC 16-FT TRANSONIC        | (105)       | 342  |
| 2476    | IN PROCESS | IA190B   | 5*20*80 - 02*21*80  |        | 5/140C     | ARC 9X7-FT SUPERSONIC       | ( 47 )      | 411  |
| 2477    | PUBLISHED  | LA141B   | 3*18*80 - 05*01*80  |        | VEH 102    | LARC 20-IN HYPERSONIC (M=6) | ( 74 )      | 6546 |
| 2478    | PUBLISHED  | LA131    | 1* 8*80 - 02*01*80  |        | VEH 102    | LARC UNITARY PLAN           | (106)       | 1299 |
| 2479    |            |          |                     |        |            |                             |             |      |
| 2480    | PUBLISHED  | IH104    | 2* 7*80 - 04*17*80  |        | 5/140C     | ARC 3.5-FT HYPERSONIC       | ( 60 )      | 250  |
| 2481    |            |          |                     |        |            |                             |             |      |
| 2482    | PUBLISHED  | OA400    | 4*23*80 - 05*02*80  |        | 5/140C     | ARC 11-FT TRANSONIC         | ( 47 )      | 427  |
| 2483    | PUBLISHED  | OS49     | 1*28*81 - 02*04*81  |        | TPS        | AEDC 16-FT TRANSONIC        | (111)       | 556  |
| 2484    | PUBLISHED  | LA144    | 7*28*80 - 08*01*80  |        | VEH 102    | LTV 4X4-FT SUPERSONIC       | (106)       | 742  |
| 2485    | PUBLISHED  | OS50     | 4*30*81 - 06*01*81  |        | TPS        | ARC 11-FT TRANSONIC         | (113)       | 425  |
| 2486    | PUBLISHED  | OA253    | 7* 1*80 - 07*08*80  |        | 5/140C     | AEDC 16-FT TRANSONIC        | ( 84 )      | 574  |
| 2487    | PUBLISHED  | OS51C    | 1*27*81 - 01*29*81  |        | TPS TILE   | ARC 11-FT TRANSONIC         | ( 96 )      | 436  |
| 2488    |            |          |                     |        |            |                             |             |      |
| 2489    | PUBLISHED  | OS56     | 8*26*81 - 08*27*81  |        | TPS TILE   | AEDC 16-FT TRANSONIC        | (108)       | 608  |
| 2490    | PUBLISHED  | OH109    | 10*27*80 - 11*24*80 |        | 5/140C     | AEDC B / HYPERSONIC         | ( 56 )      | G9   |
| 2491    | PUBLISHED  | OA258    | 11*25*80 - 01*06*81 |        | VEH 102    | AEDC B / HYPERSONIC         | (106)       | BHQ  |
| 2492    | PUBLISHED  | OH107    | 1* 7*81 - 01*08*81  |        | ELEV/ELEV  | AEDC B / HYPERSONIC         | ( 94 )      | B17  |
| 2493    | PUBLISHED  | OA259    | 2*16*81 - 02*20*81  |        | VEH 102    | AEDC B / HYPERSONIC         | ( 72 )      | 14   |
| 2494    | PUBLISHED  | OH108    | 12*15*80 - 01*15*81 |        | ELEV/ELEV  | ARC 3.5-FT HYPERSONIC       | ( 93 )      | 254  |
| 2495    | PUBLISHED  | OH110    | 11*17*80 - 01*30*81 |        | 5/140C     | ARC 3.5-FT HYPERSONIC       | ( 60 )      | 253  |

| DATAMAN |            | TEST   |  | TESTING             |        | MODEL      |       | WIND TUNNEL                  |      | NO. |
|---------|------------|--------|--|---------------------|--------|------------|-------|------------------------------|------|-----|
| NO.     | STATUS     | NO.    |  | SCHED.              | COMPL. | REF.       | (ID)  | FACILITY                     |      |     |
| 2496    | PUBLISHED  | OH111  |  | 9*24*81 - 09*30*81  |        | 5/140C     | ( 60) | AEDC B / HYPERSONIC          | 1C   |     |
| 2497    | IN PROCESS | MA34   |  | 3*12*81 - 03*20*81  |        | ADS PROBES | ( 99) | AEDC 16-FT TRANSONIC         | 594  |     |
| 2498    | PUBLISHED  | OA255D |  | 1*12*81 - 02*02*81  |        | DV102      | ( 70) | LARC UNITARY PLAN            | 1319 |     |
| 2499    | PUBLISHED  | OA164  |  | 11*28*75 - 12*01*75 |        | OV101(ALT) | ( 76) | ARC 40X80-FT SUBSONIC        | 473  |     |
| 2500    |            |        |  |                     |        |            |       |                              |      |     |
| 2501    |            |        |  |                     |        |            |       |                              |      |     |
| 2502    |            |        |  |                     |        |            |       |                              |      |     |
| 2503    | PUBLISHED  | OS53B  |  | 3*23*81 - 04*01*81  |        | TPS        | (719) | LARC 8-FT TRANSONIC PRESSURE | 909  |     |
| 2504    |            |        |  |                     |        |            |       |                              |      |     |
| 2505    | PUBLISHED  | OS46G  |  | 12*10*81 - 12*11*81 |        | TPS        | (108) | AEDC 16-FT TRANSONIC         | 551  |     |
| 2506    | PUBLISHED  | OS60   |  | 6* 9*81 - 06*09*81  |        | TPS TILE   | ( 96) | ARC 11-FT TRANSONIC          | 500  |     |
| 2507    | PUBLISHED  | MA33A  |  | 4*19*82 - 04*30*82  |        | VEH 102    | (106) | ARC 11-FT TRANSONIC          | 510  |     |
| 2508    |            |        |  |                     |        |            |       |                              |      |     |
| 2509    |            |        |  |                     |        |            |       |                              |      |     |
| 2510    |            |        |  |                     |        |            |       |                              |      |     |

APPENDIX B

TABLE B2. - DATAMAN DOCUMENT TITLES

CHRYSLER DATA MANAGEMENT SERVICES(DMS)  
SPACE SHUTTLE WIND TUNNEL TEST PROGRAM  
DATA REPORT DOCUMENTATION

PAGE 1

| DMS-DR<br>REPORT<br>NUMBER | NASA<br>CR<br>NUMBER | NASA<br>SERIES<br>NUMBER | SPACE SHUTTLE VEHICLE WIND TUNNEL TEST DATA REPORT TITLE   |
|----------------------------|----------------------|--------------------------|--|
| 2001                       | 128,750              | MA5                      | AERODYNAMIC STABILITY AND CONTROL CHARACTERISTICS OF A 0.0125 SCALE MODEL NR ATP ORBITER AT MACH NUMBERS FROM 1.9 TO 4.63                                      |
| 2002                       | 128,752              | LA1                      | RESULTS OF TRANSONIC TESTS IN THE NASA/LARC 8 FOOT PRESSURE TUNNEL ON A 0.015 SCALE MODEL NR-PRR SPACE SHUTTLE ORBITER   |
| 2003                       | 128,754              | MA2                      | HYPERSONIC AERODYNAMIC CHARACTERISTICS OF NR-ATP ORBITER, ORBITER WITH EXTERNAL TANK, AND ASCENT CONFIGURATION   |
| 2004                       | 120,082              | MA1                      | LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF LOW ASPECT RATIO WING CONFIGURATIONS IN GROUND EFFECT FOR A MOVING AND STATIONARY GROUND SURFACE                   |
| 2005                       | 120,070              | OA1                      | AERODYNAMIC STABILITY, CONTROL EFFECTIVENESS AND DRAG CHARACTERISTICS OF A SHUTTLE ORBITER CONFIGURATION AT MACH NUMBERS FROM 0.6 TO 4.96                      |
| 2006                       | 120,088              | IA1A                     | AERODYNAMIC STATIC STABILITY AND CONTROL EFFECTIVENESS OF A PARAMETRIC SHUTTLE LAUNCH CONFIGURATION  |
| 2007                       | 128,760              | OA4                      | RESULTS OF INVESTIGATIONS ON A 0.015 SCALE MODEL NORTH AMERICAN ROCKWELL SPACE SHUTTLE ORBITER IN THE NASA/ARC 3.5 FOOT HYPERSONIC WIND TUNNEL                 |
| 2008                       | 128,751              | MA4                      | STATIC STABILITY AND PERFORMANCE CHARACTERISTICS OF THE A.T.P. ORBITER AT M=10.3   |
| 2008 R-01                  | 128,751              | MA4                      | STATIC STABILITY AND PERFORMANCE CHARACTERISTICS OF THE A.T.P. ORBITER AT M=10.3   |
| 2009                       | 128,761              | OA3                      | AERODYNAMIC CHARACTERISTICS OF THE ROCKWELL INTERNATIONAL ORBITER OA3 AT MACH NUMBERS FROM 0.6 TO 2.0  |
| 2010                       | 120,060              | IA1B                     | DETERMINATION OF THE AERODYNAMIC INTERFERENCE BETWEEN THE SPACE SHUTTLE ORBITER, EXTERNAL TANK, AND SOLID ROCKET BOOSTER ON A 0.004 SCALE ASCENT CONFIGURATION |
| 2011                       | 120,089              | MA9F                     | SPACE SHUTTLE (ATP CONFIGURATION) ABORT STAGING INVESTIGATION  |
| 2012                       | 120,090              | SA1F                     | AERODYNAMIC CHARACTERISTICS OF A 162-INCH DIAMETER SOLID ROCKET BOOSTER WITH AND WITHOUT STRAKES   |
| 2013                       | 128,762              | IA2                      | EFFECT OF GASEOUS AND SOLID SIMULATED JET PLUMES ON AN O40A SPACE SHUTTLE LAUNCH CONFIGURATION AT MACH NUMBERS FROM 1.6 TO 2.2                                 |

CHRYSLER DATA MANAGEMENT SERVICES(DMS)  
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DATA REPORT DOCUMENTATION

PAGE 2

| DMS-DR<br>CR<br>NUMBER | NASA<br>CR<br>NUMBER | NASA<br>SERIES<br>NUMBER | SPACE SHUTTLE VEHICLE WIND TUNNEL TEST DATA REPORT TITLE  |
|------------------------|----------------------|--------------------------|---|
| 2014                   | 128.753              | 0A7                      | RESULTS OF SUPERSONIC TESTS IN THE LARC UNITARY PLAN WIND TUNNEL ON A .015 SCALE MODEL NR-PRR SPACE SHUTTLE ORBITER   |
| 2015                   | 120.091              | V-01                     | AERODYNAMIC RESULTS OF SEPARATION TESTS IN THE VOUGHT AERONAUTICS 4X4FT HSWT ON A .0075 SCALE ROCKWELL INTERNATIONAL-ATP SHUTTLE INTEGRATED VEHICLE                     |
| 2015                   | 120.091              | V-02                     | AERODYNAMIC RESULTS OF SEPARATION TESTS ON THE VOUGHT AERONAUTICS 4FT X 4FT HSWT ON A .0075 SCALE ROCKWELL INTERNATIONAL-ATP SHUTTLE INTEGRATED VEHICLE                 |
| 2016                   | 120.092              | 0A2                      | RESULTS OF INVESTIGATIONS ON A 0.0405 SCALE MODEL ATP VERSION OF THENR-SSV ORBITER IN THE NORTH AMERICAN AERONAUTICAL LABORATORY LOW SPEED WIND TUNNEL                  |
| 2017                   | 123.851              | 0A5                      | RESULTS OF INVESTIGATIONS ON A 0.0405 SCALE MODEL PRR VERSION OF THENR-SSV ORBITER IN THE NORTH AMERICAN AERONAUTICAL LABORATORY LOW SPEED WIND TUNNEL                  |
| 2018                   | 128.755              | 1A3                      | CROSS WIND LOADS INVESTIGATION OF A .01925 SCALE MODEL OF THE ATP-SSV LAUNCH CONFIGURATION  |
| 2019                   | 128.756              | 0A6                      | LOW SPEED LONGITUDINAL AND LATERAL STABILITY CHARACTERISTICS OF A PRPRR SHUTTLE ORBITER CONFIGURATION   |
| 2020                   | 128.757              | 0A9                      | LOW SPEED INVESTIGATION OF THE PRR PLANFORM WING BOTH IN AND OUT OF GROUND EFFECT   |
| 2021                   | 128.758              | V-01                     | PRESSURE LOADS AND AERODYNAMIC FORCE INFORMATION FOR THE -89A SPACE SHUTTLE ORBITER CONFIGURATION   |
| 2021                   | 128.758              | V-02                     | PRESSURE LOADS AND AERODYNAMIC FORCE INFORMATION FOR THE -89A SPACE SHUTTLE ORBITER CONFIGURATION   |
| 2022                   | 128.759              | 0A10                     | AERODYNAMIC CHARACTERISTICS OF THE ROCKWELL INTERNATIONAL -89B SPACE SHUTTLE ORBITER CONFIGURATION  |
| 2023                   | 128.763              | 1A2                      | STATIC AERODYNAMIC CHARACTERISTICS AND OIL FLOW AND ELECTRON BEAM RESULTS OF A 0.005 SCALE MODEL LANGLEY CONCEPT SPACE SHUTTLE ORBITER(LO-100) AT A MACH NUMBER OF 20.3 |
| 2024                   | 128.766              | 1A7                      | WIND TUNNEL TEST OF THE 0.019 (040A) JET PLUME SPACE SHUTTLE INTEGRATED VEHICLE IN THE ARC 11-FOOT UNITARY WIND TUNNEL  |
| 2025                   | 128.767              | SA3F                     | AERODYNAMIC CHARACTERISTICS OF A 142-INCH DIAMETER SOLID ROCKET BOOSTER WITH AND WITHOUT STRAKES  |

CHRYSLER DATA MANAGEMENT SERVICES(DMS)  
SPACE SHUTTLE WIND TUNNEL TEST PROGRAM  
DATA REPORT DOCUMENTATION

| DMS-DR<br>REPORT<br>NUMBER | NASA<br>CR<br>NUMBER | NASA<br>SERIES<br>NUMBER | SPACE SHUTTLE VEHICLE WIND TUNNEL TEST DATA REPORT TITLE   |
|----------------------------|----------------------|--------------------------|--|
| 2026                       | 128,778              | IA31F                    | AERODYNAMIC INVESTIGATIONS ON A 0.004 SCALE MODEL MCR 0074 BASELINE SPACE SHUTTLE LAUNCH VEHICLE AT MACH NO. BETWEEN 0.6 AND 4.96  |
| 2027                       | 141,807              | IA32FB                   | AN INVESTIGATION IN THE NASA MSFC 14-INCH TRISONIC WIND TUNNEL TO DETERMINE THE PRESSURE DISTRIBUTION OVER THE COMPONENTS OF A 0.004 SCALE VERSION OF THE ROCKWELL MCR 0074 BASELINE SHUTTLE ASCENT CONFIGURATION (IA32FB) |
| 2027                       | 141,808              | IA32FB                   | AN INVESTIGATION IN THE NASA MSFC 14-INCH TRISONIC WIND TUNNEL TO DETERMINE THE PRESSURE DISTRIBUTION OVER THE COMPONENTS OF A 0.004 SCALE VERSION OF THE ROCKWELL MCR 0074 BASELINE SHUTTLE ASCENT CONFIGURATION (IA32F)  |
| 2027                       | 141,809              | IA32FB                   | AN INVESTIGATION IN THE NASA MSFC 14-INCH TRISONIC WIND TUNNEL TO DETERMINE THE PRESSURE DISTRIBUTION OVER THE COMPONENTS OF A 0.004 SCALE VERSION OF THE ROCKWELL MCR 0074 BASELINE SHUTTLE ASCENT CONFIGURATION (IA32F)  |
| 2028                       | 134,434              | IA31FB                   | TRIPLE BALANCE TEST OF THE PRR BASELINE SPACE SHUTTLE CONFIGURATION (TWT 570)  |
| 2028                       | 134,436              | IA31FB                   | TRIPLE BALANCE TEST OF THE PRR BASELINE SPACE SHUTTLE CONFIGURATION (TWT 570)  |
| 2029                       | 128,765              | OA47                     | RESULTS OF A STATIC STABILITY AND CONTROL EFFECTIVENESS INVESTIGATION OF A 0.004 SCALE 2A ORBITER IN THE MARSHALL SPACE FLIGHT CENTER TRISONIC WIND TUNNEL (MACH=0.6-4.96)   |
| 2030                       | 128,768              | OA14                     | AERODYNAMIC CHARACTERISTICS OF VARIOUS AFT-END CONFIGURATIONS OF THE ROCKWELL INTERNATIONAL -89B SPACE SHUTTLE ORBITER   |
| 2031                       | 128,769              | LA3                      | HYPERSONIC PERFORMANCE, STABILITY AND CONTROL CHARACTERISTICS OF A 0.010 SCALE MODEL OF A LANGLEY CONCEPT SPACE SHUTTLE ORBITER  |
| 2032                       | 128,794              | IA9A.B.C/OA12A.C         | RESULTS OF TESTS OA12 AND IA9 IN THE AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS ON AN 0.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 2A TO DETERMINE AERODYNAMIC LOADS   |
| 2032                       | 128,794              | IA9A.B.C/OA12A.C         | RESULTS OF TESTS OA12 AND IA9 IN THE AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS ON AN 0.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 2A TO DETERMINE AERODYNAMIC LOADS   |
| 2032                       | 128,794              | IA9A.B.C/OA12A.C         | RESULTS OF TESTS OA12 AND IA9 IN THE AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS ON AN 0.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 2A TO DETERMINE AERODYNAMIC LOADS   |

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| 2032                       | 128, 794             | V-04                     | IA9A, B, C/OA12A, C<br>RESULTS OF TESTS OA12 AND IA9 IN THE AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS ON AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 2A TO DETERMINE AERODYNAMIC LOADS |
| 2032                       | 128, 794             | V-05                     | IA9A, B, C/OA12A, C<br>RESULTS OF TESTS OA12 AND IA9 IN THE AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS ON AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 2A TO DETERMINE AERODYNAMIC LOADS |
| 2032                       | 128, 794             | V-06                     | IA9A, B, C/OA12A, C<br>RESULTS OF TESTS OA12 AND IA9 IN THE AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS ON AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 2A TO DETERMINE AERODYNAMIC LOADS |
| 2032                       | 128, 794             | V-07                     | IA9A, B, C/OA12A, C<br>RESULTS OF TESTS OA12 AND IA9 IN THE AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS ON AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 2A TO DETERMINE AERODYNAMIC LOADS |
| 2032                       | 128, 794             | V-08                     | IA9A, B, C/OA12A, C<br>RESULTS OF TESTS OA12 AND IA9 IN THE AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS ON AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 2A TO DETERMINE AERODYNAMIC LOADS |
| 2032                       | 128, 794             | V-09                     | IA9A, B, C/OA12A, C<br>RESULTS OF TESTS OA12 AND IA9 IN THE AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS ON AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 2A TO DETERMINE AERODYNAMIC LOADS |
| 2032                       | 128, 794             | V-10                     | IA9A, B, C/OA12A, C<br>RESULTS OF TESTS OA12 AND IA9 IN THE AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS ON AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 2A TO DETERMINE AERODYNAMIC LOADS |
| 2032                       | 128, 794             | V-11                     | IA9A, B, C/OA12A, C<br>RESULTS OF TESTS OA12 AND IA9 IN THE AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS ON AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 2A TO DETERMINE AERODYNAMIC LOADS |
| 2032                       | 128, 794             | V-12                     | IA9A, B, C/OA12A, C<br>RESULTS OF TESTS OA12 AND IA9 IN THE AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS ON AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 2A TO DETERMINE AERODYNAMIC LOADS |
| 2032                       | 128, 794             | V-13                     | IA9A, B, C/OA12A, C<br>RESULTS OF TESTS OA12 AND IA9 IN THE AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS ON AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 2A TO DETERMINE AERODYNAMIC LOADS |



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| 2032                       | 128,794              | V-14                     | IA9A.B.C/OA12A.C<br>RESULTS OF TESTS OA12 AND IA9 IN THE AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS ON AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 2A TO DETERMINE AERODYNAMIC LOADS              |
| 2032                       | 128,794              | V-15                     | IA9A.B.C/OA12A.C<br>RESULTS OF TESTS OA12 AND IA9 IN THE AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS ON AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 2A TO DETERMINE AERODYNAMIC LOADS              |
| 2032                       | 128,794              | V-16                     | IA9A.B.C/OA12A.C<br>RESULTS OF TESTS OA12 AND IA9 IN THE AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS ON AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 2A TO DETERMINE AERODYNAMIC LOADS              |
| 2032                       | 128,794              | V-17                     | IA9A.B.C/OA12A.C<br>RESULTS OF TESTS OA12 AND IA9 IN THE AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS ON AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 2A TO DETERMINE AERODYNAMIC LOADS              |
| 2032                       | 128,794              | V-18                     | IA9A.B.C/OA12A.C<br>RESULTS OF TESTS OA12 AND IA9 IN THE AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS ON AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 2A TO DETERMINE AERODYNAMIC LOADS              |
| 2033                       | 128,772              | LA4                      | SUPERSONIC STABILITY AND CONTROL CHARACTERISTICS OF A LANGLEY CONCEPT SPACE SHUTTLE ORBITER AT MACH 1.5 TO 4.63   |
| 2034                       | 128,764              | LA22                     | AERODYNAMIC AND FLOW VISUALIZATION STUDIES ON A SPACE SHUTTLE CONCEPT WITH A DOUBLE DELTA WING ORBITER AT A MACH NUMBER OF 20.3   |
| 2035                       | 134,077              | OH2A/OH2B                | THERMAL PROTECTION SYSTEM GAP HEATING RATES OF THE ROCKWELL INTERNATIONAL FLAT PLATE HEAT TRANSFER MODEL  |
| 2036                       | 128,775              | LA5                      | AERODYNAMIC AND FLOW-VISUALIZATION STUDIES ASSOCIATED WITH VARIATIONS IN THE GEOMETRY OF THE FORWARD PORTION OF IRREGULAR PLANFORM WINGSAT A MACH NUMBER OF 20.3  |
| 2037                       | 134,405              | OA84                     | RESULTS OF INVESTIGATIONS ON A O.015-SCALE 140A/B CONFIGURATION SPACE SHUTTLE VEHICLE ORBITER MODEL (49-O) IN THE LTV 4 BY 4-FOOT HIGH SPEED WIND TUNNEL  |
| 2038                       | 128,793              | OA16                     | RESULTS OF LOW SPEED WIND TUNNEL TESTS ON A .0405 SCALE MODEL ROCKWELL SPACE SHUTTLE ORBITER TESTED BOTH IN FREE AIR AND IN THE PRESENCE OF A GROUND PLANE  |
| 2039                       | 134,071              | IA6A                     | RESULTS OF WIND TUNNEL TESTS AT MACH 5 ON THE .004 SCALE MODEL 2A CONFIGURATION SPACE SHUTTLE TO DETERMINE PROXIMITY EFFECTS AND ORBITERCONTROL EFFECTIVENESS DURING ORBITER/EXTERNAL TANK ABORT SEPARATION |

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| 2040                       | 128.773              | LA6                      | SURFACE ROUGHNESS EFFECTS ON THE TRANSONIC AERODYNAMICS OF THE ROCKWELL INTERNATIONAL O89B-139 ORBITER   |
| 2041                       | 128.781              | LA7A                     | TRANSONIC AERODYNAMIC CHARACTERISTICS ASSOCIATED WITH VARIATIONS IN THE GEOMETRY OF THE FORWARD PORTION OF IRREGULAR PLANFORM WINGS  |
| 2042                       | 134.087              | IA52                     | RESULTS OF FLOW VISUALIZATION STUDIES IN THE NASA/MSEC 14 X 14 INCH TRISONIC WIND TUNNEL ON A .004 SCALE MODEL (34-0) SPACE SHUTTLE ORBITER AND INTEGRATED VEHICLE                                     |
| 2043                       | 128.770              | LA16                     | HEAT TRANSFER DATA TO CAVITIES BETWEEN SIMULATED RSI TILES AT MACH 8   |
| 2044                       | 128.786              | OA11A                    | RESULTS OF INVESTIGATIONS ON A 0.015-SCALE MODEL 2A CONFIGURATION OF THE ROCKWELL INTERNATIONAL SPACE SHUTTLE ORBITER IN THE NASA/AMES RESEARCH CENTER 3.5 FOOT HYPERSONIC WIND TUNNEL                 |
| 2045                       | 128.779              | OA18                     | RESULTS OF INVESTIGATIONS (OA18) OF A 0.0405 SCALE MODEL OF THE 2A AND 3 SPACE SHUTTLE ORBITER CONFIGURATIONS IN THE NORTH AMERICAN AERONAUTICAL LABORATORY LOW SPEED WIND TUNNEL AT M = 0.26 AND 0.16 |
| 2046                       | 128.776              | LA17                     | AERODYNAMIC STABILITY AND CONTROL CHARACTERISTICS OF A LANGLEY CONCEPT SPACE SHUTTLE ORBITER (LO-100) AT MACH NUMBERS OF 0.35 TO 1.2   |
| 2047                       | 134.086              | LA31                     | EFFECT OF WALL TO TOTAL TEMPERATURE RATIO VARIATION ON HEAT TRANSFER   |
| 2048                       | 134.104              | IA12B                    | WIND TUNNEL TEST OF THE 0.019 (2A CONFIGURATION) JET PLUME SPACE SHUTTLE INTEGRATED VEHICLE IN THE ARC 9- BY 7-FOOT UNITARY WIND TUNNEL  |
| 2049                       | 128.771              | OH40                     | AERODYNAMIC HEATING OF A SPACE SHUTTLE DOUBLE DELTA WING ORBITER AT MACH NUMBER 8.0  |
| 2050                       | 128.790              | OA43                     | WIND TUNNEL TEST OF THE 0.15-SCALE ROCKWELL INTERNATIONAL SPACE SHUTTLE VEHICLE ORBITER IN THE AMES 6- BY 6-FOOT SUPERSONIC WIND TUNNEL  |
| 2051                       | 128.774              | SA5F                     | AERODYNAMIC CHARACTERISTICS OF A 142-INCH DIAMETER SOLID ROCKET BOOSTER (CONFIGURATIONS 89B AND 139)   |
| 2052                       | 128.791              | LA10                     | SUPERSONIC AERODYNAMIC CHARACTERISTICS ASSOCIATED WITH VARIATIONS IN THE GEOMETRY OF THE FORWARD PORTION OF IRREGULAR PLANFORM WINGS   |
| 2053                       | 128.792              | V-01                     | EXPERIMENTAL INVESTIGATIONS OF AN 0.0405 SCALE SPACE SHUTTLE CONFIGURATION 3 ORBITER TO DETERMINE SUBSONIC STABILITY CHARACTERISTICS (OA21)  |

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| 2053                       | 128,792              | 0A21B                    | EXPERIMENTAL INVESTIGATIONS OF AN O.0405 SCALE SPACE SHUTTLE CONFIGURATION 3 ORBITER TO DETERMINE SUBSONIC STABILITY CHARACTERISTICS (0A21)  |
| 2054                       | 128,796              | LA8A/LA8B                | SURFACE ROUGHNESS EFFECTS ON THE SUPERSONIC AERODYNAMICS OF THE ROCKWELL INTERNATIONAL O89B-139 ORBITER  |
| 2055                       | 128,780              | 0A48                     | STATIC STABILITY AND CONTROL EFFECTIVENESS OF MODELS 12-O AND 34-O OF THE VEHICLE 3 CONFIGURATIONS   |
| 2055                       | 128,780              | 0A43                     | STATIC STABILITY AND CONTROL EFFECTIVENESS OF MODELS 12-O AND 34-O OF THE VEHICLE 3 CONFIGURATIONS   |
| 2055                       | 128,780              | 0A48                     | STATIC STABILITY AND CONTROL EFFECTIVENESS OF MODELS 12-O AND 34-O OF THE VEHICLE 3 CONFIGURATIONS   |
| 2056                       | 128,782              | LA9                      | SURFACE ROUGHNESS EFFECTS ON THE SUBSONIC AERODYNAMICS OF THE ROCKWELL INTERNATIONAL O89B-139 ORBITER  |
| 2057                       | 134,411              | 0A44                     | RESULTS OF AN EXPERIMENTAL AERODYNAMIC INVESTIGATION TO OBTAIN STATIC STABILITY AND CONTROL CHARACTERISTICS OF THE SSV CONFIGURATIONS 2A(VL70-000089B) MODEL 1 AND 3 (VL70-000139B) MODEL 2 ORBITERS AT MACHNUMBERS OF 2.5, 3.9, AND 4.6 IN THE NASA LARC 4X4-FOOT UPWT (0A44) |
| 2058                       | 134,079              | 0A17                     | RESULTS OF THE O.015 SCALE SPACE SHUTTLE VEHICLE ORBITER TEST (0A17) IN THE NASA LOW TURBULENCE PRESSURE TUNNEL  |
| 2059                       | 128,798              | 0A11B                    | INVESTIGATIONS OF THE SPACE SHUTTLE ORBITER 2A CONFIGURATION O.015-SCALE MODEL IN THE NASA AMES RESEARCH CENTER 3.5-FOOT HYPERSONIC WIND TUNNEL AT MACH NUMBERS 5, 7 AND 10  |
| 2060                       | 134,091              | 0A58                     | RESULTS OF AN AERODYNAMIC FORCE AND MOMENT INVESTIGATION OF AN O.015-SCALE CONFIGURATION 3 SPACE SHUTTLE ORBITER IN THE NASA/ARC 3.5-FOOT HYPERSONIC WIND TUNNEL (0A58)  |
| 2061                       | 128,789              | 0A68                     | SUBSONIC, TRANSONIC, AND SUPERSONIC STABILITY AND CONTROL CHARACTERISTICS OF THE -147B SPACE SHUTTLE ORBITER   |
| 2062                       | 134,117              | IA13                     | AERODYNAMIC RESULTS OF A SEPARATION EFFECTS TEST CONDUCTED IN THE AEDC 40X 40 INCH TUNNEL A FACILITY ON THE ROCKWELL INTERNATIONAL LAUNCH CONFIGURATION 3 INTEGRATED VEHICLE   |

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| 2062                       | 134,118              | 1A13                     | AERODYNAMIC RESULTS OF A SEPARATION EFFECTS TEST CONDUCTED IN THE AEDC 40 X 40 INCH TUNNEL A FACILITY ON THE ROCKWELL INTERNATIONAL LAUNCH CONFIGURATION 3 INTEGRATED VEHICLE |
| 2062                       | 141,801              | 1A13                     | AERODYNAMIC RESULTS OF A SEPARATION EFFECTS TEST CONDUCTED IN THE AEDC 40 X 40 INCH TUNNEL A FACILITY ON THE ROCKWELL INTERNATIONAL LAUNCH CONFIGURATION 3 INTEGRATED VEHICLE |
| 2063                       | 128,788              | 1A37/1A48                | RESULTS OF TESTS IN THE MSFC 14X14 INCH TRANSONIC WIND TUNNEL ON A .004 SCALE MODEL OF THE ROCKWELL INTERNATIONAL SPACE SHUTTLE VEHICLE 3, (INTEGRATED CONFIGURATION)         |
| 2064                       | 141,814              | 1A36                     | WIND TUNNEL TEST OF THE O.019 SCALE SPACE SHUTTLE INTEGRATED VEHICLE(MODEL 14-QTS) IN THE CALSPAN 8-FOOT TRANSONIC WIND TUNNEL (1A36)   |
| 2064                       | 141,816              | 1A36                     | WIND TUNNEL TEST OF THE O.019 SCALE SPACE SHUTTLE INTEGRATED VEHICLE(MODEL 14-QTS) IN THE CALSPAN 8-FOOT TRANSONIC WIND TUNNEL (1A36)   |
| 2065                       | 141,518              | 1A12C                    | WIND TUNNEL TESTS OF AN O.019-SCALE SPACE SHUTTLE INTEGRATED VEHICLE IN THE NASA AMES 8 X 7-FOOT UNITARY WIND TUNNEL(1A12C)   |
| 2065                       | 141,519              | 1A120                    | WIND TUNNEL TESTS OF AN O.019-SCALE SPACE SHUTTLE INTEGRATED VEHICLE IN THE NASA AMES 8 X 7-FOOT UNITARY WIND TUNNEL(1A12C)   |
| 2065                       | 141,520              | 1A12C                    | WIND TUNNEL TESTS OF AN O.019-SCALE SPACE SHUTTLE INTEGRATED VEHICLE IN THE NASA AMES 8 X 7-FOOT UNITARY WIND TUNNEL(1A12C)   |
| 2066                       | 128,783              | 1A11                     | HYPERSONIC PERFORMANCE, STABILITY AND CONTROL CHARACTERISTICS OF A .0075 SCALE MODEL ROCKWELL INTERNATIONAL O89-139 ORBITER CONFIGURATION                                     |
| 2067                       | 128,777              | 052                      | FLUTTER TESTS (052) OF THE SHUTTLE ORBITER FIN/RUDDER MODEL 24-O  |
| 2068                       | 128,797              | 0A71A                    | EFFECTS OF THE AIR BREATHING PROPULSION SYSTEM ON SPACE SHUTTLE ORBITER SUBSONIC STABILITY AND CONTROL CHARACTERISTICS (0A71A)  |
| 2069                       | 134,074              | MA7                      | EFFECTS OF REACTION CONTROL SYSTEM JET-FLOW FIELD INTERACTIONS ON A O.015 SCALE MODEL SPACE SHUTTLE ORBITER AERODYNAMIC CHARACTERISTICS                                       |
| 2070                       | 128,787              | LA23                     | EFFECT OF GASEOUS AND SOLID SIMULATED JET PLUMES ON AN O40A SPACE SHUTTLE LAUNCH CONFIGURATION AT MACH NUMBERS FROM 1.6 TO 2.2  |

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| 2071                       | 128,799              | 0A23                     | RESULTS OF TESTS OF 0.010- AND 0.015-SCALE MODELS OF SPACE SHUTTLE ORBITER CONFIGURATIONS 3 AND 3A IN THE AMES RESEARCH CENTER 3.5-FOOT HYPERSONIC WIND TUNNEL (0A23)                              |
| 2072                       | 134,072              | 1A31FC                   | MISALIGNMENT STUDIES ON SPACE SHUTTLE INTEGRATED VEHICLE   |
| 2073                       | 134,070              | 0A70                     | EFFECTS OF REACTION CONTROL SYSTEM JET SIMULATION ON THE STABILITY AND CONTROL CHARACTERISTICS OF A 0.015 SCALE SPACE SHUTTLE MODEL TESTED IN THE LANGLEY RESEARCH CENTER UNITARY PLAN WIND TUNNEL |
| 2074                       | 134,414              | 0A57A                    | EFFECTS OF THE AIR BREATHING ENGINE PLUMES ON SSV ORBITER SUBSONIC WING PRESSURE DISTRIBUTIONS   |
| 2075                       | 128,784              | 0H41                     | INVESTIGATION OF CONFIGURATION EFFECTS ON ENTRY HEATING DISTRIBUTIONS AT MACH = 8.0 (0H41)   |
| 2076                       | 128,785              | 0H41A                    | INVESTIGATION OF CONFIGURATION EFFECTS ON ENTRY HEATING DISTRIBUTIONS AT MACH NO = 8.0 (0H41A)   |
| 2077                       | 134,095              | 1A29/0A63                | RESULTS OF TESTS 0A63 AND 1A29 ON AN 0.015-SCALE MODEL OF THE SPACE SHUTTLE CONFIGURATION 140 A/B IN THE NASA/ARC 6- BY 6-FOOT TRANSONIC WIND TUNNEL   |
| 2077                       | 134,099              | 1A29                     | RESULTS OF TESTS 0A63 AND 1A29 ON AN 0.015-SCALE MODEL OF THE SPACE SHUTTLE CONFIGURATION 140 A/B IN THE NASA/ARC 6- BY 6-FOOT TRANSONIC WIND TUNNEL   |
| 2077                       | 134,100              | 0A63                     | RESULTS OF TESTS 0A63 AND 1A29 ON AN 0.015-SCALE MODEL OF THE SPACE SHUTTLE CONFIGURATION 140 A/B IN THE NASA/ARC 6- BY 6-FOOT TRANSONIC WIND TUNNEL   |
| 2078                       | 128,795              | 1A10                     | WIND TUNNEL TEST OF THE 0.010-SCALE SPACE SHUTTLE INTEGRATED VEHICLE IN THE NASA-AMES 3.5-FOOT HYPERSONIC WIND TUNNEL (1A10)   |
| 2079                       | 134,083              | 1A15                     | EFFECTS OF SURFACE ROUGHNESS ON THE AERODYNAMIC CHARACTERISTICS OF THE MODIFIED 089 B SHUTTLE ORBITER AT MACH 6 (1A15)   |
| 2080                       | 134,416              | 0A57B                    | EFFECTS OF AIR BREATHING ENGINE PLUMES ON SSV ORBITER SUBSONIC WING PRESSURE DISTRIBUTION  |
| 2080                       | 134,417              | 0A57B                    | EFFECTS OF AIR BREATHING ENGINE PLUMES ON SSV ORBITER SUBSONIC WING PRESSURE DISTRIBUTION  |
| 2081                       | 141,580              | 0A69                     | LANDING PRESSURE LOADS OF THE -140 A/B SPACE SHUTTLE ORBITER DETERMINED IN THE NRLAD LOW SPEED WIND TUNNEL (0A69)  |

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| 2081                       | 141,581              | OA69                     | LANDING PRESSURE LOADS OF THE -140 A/B SPACE SHUTTLE ORBITER DETERMINED IN THE NREL LOW SPEED WIND TUNNEL (OA69)  |
| 2082                       | 128,800              | OA73                     | EFFECTS OF REACTION CONTROL SYSTEM JET SIMULATION ON THE STABILITY AND CONTROL CHARACTERISTICS OF A 0.015-SCALE SPACE SHUTTLE ORBITER MODEL IN THE AMES RESEARCH CENTER 3.5-FOOT HYPERSONIC WIND TUNNEL |
| 2083                       | 134,081              | OA20A                    | RESULTS OF INVESTIGATIONS (OA20) ON A 0.015-SCALE 140 A/B CONFIGURATION SPACE SHUTTLE VEHICLE ORBITER MODEL IN THE NASA/LANGLEY RESEARCH CENTER UNITARY PLAN WIND TUNNEL                                |
| 2084                       | 134,443              | IA14A                    | AIRLOADS INVESTIGATIONS OF AN 0.030-SCALE MODEL OF THE SPACE SHUTTLEVEHICLE 140A/B LAUNCH CONFIGURATION (MODEL 47-OTS) IN THE ARC 11-FOOT UNITARY PLAN WIND TUNNEL FOR MACH RANGE 0.6 TO 1.4 (IA14A)    |
| 2084                       | 134,444              | IA14A                    | AIRLOADS INVESTIGATIONS OF AN 0.030-SCALE MODEL OF THE SPACE SHUTTLEVEHICLE 140A/B LAUNCH CONFIGURATION (MODEL 47-OTS) IN THE ARC 11-FOOT UNITARY PLAN WIND TUNNEL FOR MACH RANGE 0.6 TO 1.4 (IA14A)    |
| 2084                       | 143,445              | IA14A                    | AIRLOADS INVESTIGATIONS OF AN 0.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 140A/B LAUNCH CONFIGURATION (MODEL 47-OTS) IN THE ARC 11-FOOT UNITARY PLAN WIND TUNNEL FOR MACH RANGE 0.6 TO 1.4 (IA14A)   |
| 2084                       | 143,446              | IA14A                    | AIRLOADS INVESTIGATIONS OF AN 0.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 140A/B LAUNCH CONFIGURATION (MODEL 47-OTS) IN THE ARC 11-FOOT UNITARY PLAN WIND TUNNEL FOR MACH RANGE 0.6 TO 1.4 (IA14A)   |
| 2084                       | 143,447              | IA14A                    | AIRLOADS INVESTIGATIONS OF AN 0.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 140A/B LAUNCH CONFIGURATION (MODEL 47-OTS) IN THE ARC 11-FOOT UNITARY PLAN WIND TUNNEL FOR MACH RANGE 0.6 TO 1.4 (IA14A)   |
| 2084                       | 143,448              | IA14A                    | AIRLOADS INVESTIGATIONS OF AN 0.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 140A/B LAUNCH CONFIGURATION (MODEL 47-OTS) IN THE ARC 11-FOOT UNITARY PLAN WIND TUNNEL FOR MACH RANGE 0.6 TO 1.4 (IA14A)   |
| 2084                       | 143,449              | IA14A                    | AIRLOADS INVESTIGATIONS OF AN 0.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 140A/B LAUNCH CONFIGURATION (MODEL 47-OTS) IN THE ARC 11-FOOT UNITARY PLAN WIND TUNNEL FOR MACH RANGE 0.6 TO 1.4 (IA14A)   |
| 2084                       | 143,450              | IA14A                    | AIRLOADS INVESTIGATIONS OF AN 0.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 140A/B LAUNCH CONFIGURATION (MODEL 47-OTS) IN THE ARC 11-FOOT UNITARY PLAN WIND TUNNEL FOR MACH RANGE 0.6 TO 1.4 (IA14A)   |

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| 2084                       | 141.501              | V-09<br>1A14A            | AIRLOADS INVESTIGATIONS OF AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 140A/B LAUNCH CONFIGURATION (MODEL 47-OTS) IN THE ARC 11-FOOT UNITARY PLAN WIND TUNNEL FOR MACH RANGE 0.6 TO 1.4 (1A14A)  |
| 2084                       | 141.502              | V-10<br>1A14A            | AIRLOADS INVESTIGATIONS OF AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 140A/B LAUNCH CONFIGURATION (MODEL 47-OTS) IN THE ARC 11-FOOT UNITARY PLAN WIND TUNNEL FOR MACH RANGE 0.6 TO 1.4 (1A14A)  |
| 2084                       | 141.503              | V-11<br>1A14A            | AIRLOADS INVESTIGATIONS OF AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 140A/B LAUNCH CONFIGURATION (MODEL 47-OTS) IN THE ARC 11-FOOT UNITARY PLAN WIND TUNNEL FOR MACH RANGE 0.6 TO 1.4 (1A14A)  |
| 2085                       | 167.344              | OH10/IH2                 | REPORT OF PRESSURE DISTRIBUTION TESTS OF THE O.010-SCALE SPACE SHUTTLE VEHICLE MODEL (26-OTS) IN THE NASA/ARC 3.5-FOOT HYPERSONIC WIND TUNNEL (TESTS OH10 AND IH2)   |
| 2086                       | 134.078              | 0A71C                    | EFFECTS OF THE SIX ENGINE AIR BREATHING PROPULSION SYSTEM ON SPACE SHUTTLE ORBITER SUBSONIC STABILITY AND CONTROL CHARACTERISTICS  |
| 2087                       | 134.116              | SA10F                    | EFFECT OF ENGINE SHROUD CONFIGURATION ON THE STATIC AERODYNAMIC CHARACTERISTICS OF A O.00563 SCALE 142-INCH DIAMETER SOLID ROCKET BOOSTER  |
| 2088                       | 134.105              | SA2FA/SA2FB              | AERODYNAMIC CHARACTERISTICS OF A 142-INCH DIAMETER SOLID ROCKET BOOSTER (CONFIGURATION 139)  |
| 2089                       | 134.082              | 0A25                     | RESULTS OF INVESTIGATIONS ON AN O.015-SCALE CONFIGURATION 140A/B SPACE SHUTTLE ORBITER MODEL (49-O) IN THE NASA/LANGLEY RESEARCH CENTER 8-FOOT TRANSONIC PRESSURE TUNNEL (0A25)  |
| 2090                       | 134.080              | LA8C                     | SUPERSONIC PERFORMANCE, STABILITY AND CONTROL CHARACTERISTICS OF A O.01875 SCALE MODEL ROCKWELL INTERNATIONAL 089B-139B ORBITER CONFIGURATION (LA8C)   |
| 2091                       | 141.512              | LA7B                     | SUBSONIC AND TRANSONIC AERODYNAMIC CHARACTERISTICS ASSOCIATED WITH VARIATIONS IN THE GEOMETRY OF THE FORWARD PORTION OF IRREGULAR PLANFORM WINGS ON A .01875 SCALE LO-100 LANGLEY CONCEPT SPACE SHUTTLE ORBITER IN THE LANGLEY 8-FOOT TPI (LA7B) |
| 2092                       | TM-X71968            | 0A72                     | HYPERSONIC STABILITY AND CONTROL CHARACTERISTICS OF A O.004 SCALE MODEL (34-O) ROCKWELL INTERNATIONAL SPACE SHUTTLE ORBITER VEHICLE 3 CONFIGURATION (0A-72)  |
| 2093                       | 134.090              | 1A37B                    | EFFECT OF EXTERNAL TANK NOSE SHAPE ON THE ROCKWELL INTERNATIONAL SPACE SHUTTLE VEHICLE 3. (INTEGRATED CONFIGURATION (1A37B))   |

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| 2094                       | 134,073              | DS1                      | FLUTTER TESTS (OS1) OF THE 0.02-SCALE ORBITER WING ELEVEN SEMI-SPAN MODEL 23-0  |
| 2095                       | 134,404              | DA49                     | AN INVESTIGATION OF THE STABILITY AND CONTROL CHARACTERISTICS OF THE VEHICLE 4 CONFIGURATION  |
| 2096                       | 134,101              | OH13                     | HEAT TRANSFER TESTS OF AN 0.006-SCALE THIN SKIN SPACE SHUTTLE THERMOCOUPLE MODEL (41-0) IN THE LANGLEY RESEARCH CENTER VARIABLE DENSITY TUNNEL AT M=8                                   |
| 2097                       | 134,102              | DA62A                    | CONTINUED INVESTIGATIONS IN THE NAAL LOW SPEED WIND TUNNEL INTO THE EFFECTS OF THE AIR BREATHING PROPULSION SYSTEM ON ORBITER SUBSONIC STABILITY AND CONTROL CHARACTERISTICS (DA62A)    |
| 2098                       | 134,096              | 1H15                     | HEAT TRANSFER TESTS OF A 0.006-SCALE THIN-SKIN SPACE SHUTTLE MODEL (41-0FS) IN THE AMES 3.5-FOOT HWT AT M=5.3   |
| 2099                       | 134,419              | V-01                     | DATA REPORT FOR TESTS ON THE HEAT TRANSFER EFFECTS OF THE 0.0175-SCALE ROCKWELL INTERNATIONAL SPACE SHUTTLE VEHICLE MODEL 22-0T IN THE AEDC 50-INCH B WIND TUNNEL                       |
| 2099                       | 134,438              | V-02                     | DATA REPORT FOR TESTS ON THE HEAT TRANSFER EFFECTS OF THE 0.0175-SCALE ROCKWELL INTERNATIONAL SPACE SHUTTLE VEHICLE MODEL 22-0T IN THE AEDC 50-INCH WIND TUNNEL                         |
| 2099                       | 134,439              | V-03                     | DATA REPORT FOR TESTS ON THE HEAT TRANSFER EFFECTS OF THE 0.0175-SCALE ROCKWELL INTERNATIONAL SPACE SHUTTLE VEHICLE MODEL 22-0T IN THE AEDC 50-INCH B WIND TUNNEL                       |
| 2100                       | 134,075              | OH3A/OH3B                | PHASE CHANGE PAINT TESTS ON ROCKWELL ORBITER/TANK AND ORBITER ALONE CONFIGURATIONS  |
| 2101                       | 134,076              | OH42A/OH42B/OH42C        | HEAT TRANSFER PHASE CHANGE PAINT TEST (OH-42) OF A ROCKWELL INTERNATIONAL SSV ORBITER IN THE NASA/LRC MACH 8 VARIABLE DENSITY WIND TUNNEL   |
| 2102                       | 134,089              | 1A15                     | RESULTS OF INVESTIGATIONS ON A 0.010-SCALE MODEL OF THE CONFIGURATION 3 SPACE SHUTTLE ORBITER AND EXTERNAL TANK IN THE NASA/AMES RESEARCH CENTER 3.5-FOOT HYPERSONIC WIND TUNNEL (1A15) |
| 2103                       | 134,094              | 1A62F                    | WIND TUNNEL TEST RESULTS OF FAIRINGS ON A 0.004 SCALE MODEL ROCKWELLSPACE SHUTTLE INTEGRATED VEHICLE AERODYNAMIC CHARACTERISTICS AT MACHNUMBERS FROM 0.6 TO 4.96 (1A62F)                |



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| 2104                       | 134,112              | V-01<br>OA62B            | INVESTIGATION OF SPACE SHUTTLE ORBITER SUBSONIC STABILITY AND CONTROL CHARACTERISTICS IN THE NAAL LOW SPEED WIND TUNNEL (OA62B)  |
| 2104                       | 134,113              | V-02<br>OA62B            | INVESTIGATION OF SPACE SHUTTLE ORBITER SUBSONIC STABILITY AND CONTROL CHARACTERISTICS IN THE NAAL LOW SPEED WIND TUNNEL (OA62B)  |
| 2105                       | 144,594              | IH17                     | TRANSITION HEATING RATES OBTAINED ON A MATED AND ISOLATED 0.006 SCALE MODEL (41-OT) SPACE SHUTTLE ORBITER AND EXTERNAL TANK IN THE NASA/LARC VARIABLE DENSITY HYPERSONIC TUNNEL            |
| 2106                       | TM-X72630            | LA14A/LA14B              | SUPERSONIC DYNAMIC STABILITY DERIVATIVES OF A MODIFIED O89B SHUTTLE ORBITER  |
| 2107                       | TM-X72631            | LA20                     | SUBSONIC AND TRANSONIC DYNAMIC STABILITY DERIVATIVES OF A MODIFIED O89B SHUTTLE ORBITER  |
| 2108                       | 134,084              | IA35/OA64                | RESULTS OF TESTS (OA64 AND IA35) OF AN 0.015-SCALE MODEL (36-OTS) OF THE SPACE SHUTTLE CONFIGURATION 140A/B IN THE NASA/LARC UNITARY PLAN WIND TUNNEL                                      |
| 2109                       | 141,527              | OH45                     | ENTRY HEAT TRANSFER TESTS OF THE 0.006-SCALE SPACE SHUTTLE (-147B) ORBITER MODEL (50-O) IN THE LANGLEY RESEARCH CENTER FREON TUNNEL AT MACH 6 (OH45)                                       |
| 2110                       | 144,589              | IH18                     | HEAT TRANSFER TESTS OF AN 0.006-SCALE THIN-SKIN SPACE SHUTTLE THERMOCOUPLE MODEL (41-OT) IN THE LANGLEY RESEARCH CENTER FREON TUNNEL AT M = 6 (IH18)                                       |
| 2111                       | 134,435              | SA26F                    | REENTRY AERODYNAMIC CHARACTERISTICS OF A SPACE SHUTTLE SOLID ROCKET BOOSTER MODEL 449 TESTED IN MSFC 14 X 14 INCH TWT  |
| 2112                       | 134,401              | IA57                     | AERODYNAMIC RESULTS OF WIND TUNNEL SEPARATION TESTS ON A 0.01-SCALE MODEL (32-OTS) SPACE SHUTTLE INTEGRATED VEHICLE (IA57)   |
| 2113                       | 134,111              | OA85                     | EFFECTS OF REACTION CONTROL SYSTEM JET FLOW FIELD INTERACTIONS ON THE AERODYNAMIC CHARACTERISTICS OF A 0.010-SCALE SPACE SHUTTLE ORBITER MODEL IN THE LANGLEY RESEARCH CENTER 31-INCH CFHT |
| 2114                       | 134,098              | OA86                     | AERODYNAMIC INVESTIGATIONS INTO VARIOUS LOW SPEED L/D IMPROVEMENT DEVICES ON THE 140A/B SPACE SHUTTLE ORBITER CONFIGURATION IN THE RI NAAL WIND TUNNEL (OA86)                              |
| 2115                       | 134,085              | OA87                     | RESULTS OF INVESTIGATIONS ON A 0.015-SCALE MODEL (49-O) OF THE SPACE SHUTTLE ORBITER IN THE NASA/AMES 3.5-FOOT HYPERSONIC WIND TUNNEL (OA87)   |

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| 2116                       | 134,888              | 0A91                     | EFFECT OF THE SIX ENGINE AIR BREATHING PROPULSION SYSTEM ON SPACE SHUTTLE ORBITER SUBSONIC AND TRANSONIC STABILITY AND CONTROL CHARACTERISTICS (0A91)  |
| 2117                       | 147,617              | 0H14                     | TRANSITION HEATING RATES DETERMINED ON A 0.006 SCALE SPACE SHUTTLE ORBITER MODEL (NO. 50-0) IN THE NASA/LARC MACH 8 VARIABLE DENSITY WIND TUNNEL TEST (0H14)                                   |
| 2118                       | 134,108              | 1A41                     | RESULTS OF TRANSONIC WIND TUNNEL TESTS ON AN 0.015 SCALE SPACE SHUTTLE MATED VEHICLE MODEL(67-OTS) IN THE LARC 8-FOOT TPT (1A41)   |
| 2119                       | 134,109              | 1A42A/1A42B              | SUPERSONIC TESTS OF AN 0.015-SCALE SPACE SHUTTLE MATED VEHICLE MODEL (67-OTS) IN THE LARC UPWT TO OBTAIN AERODYNAMIC FORCE DATA  |
| 2120                       | 134,426              | 0A106                    | WIND TUNNEL TESTS OF AN 0.015-SCALE CONFIGURATION 140A/B SPACE SHUTTLE ORBITER MODEL (67-0) IN THE NASA/LRC 8-FOOT TPT TO OBTAIN TRANSONIC AERODYNAMIC FORCE DATA (0A106)                      |
| 2121                       | TASK CANCELLED       | LA38A                    | TRANSONIC AERODYNAMIC INVESTIGATION OF CONFIGURATION MODIFICATIONS TO RI-140A/B FOR EXTENDING CENTER OF GRAVITY RANGE  |
| 2122                       | 134,424              | 1A69                     | INVESTIGATION OF SPACE SHUTTLE LAUNCH VEHICLE EXTERNAL TANK NOSE CONFIGURATION EFFECTS (MODEL 67-OTS) IN THE ROCKWELL INTERNATIONAL 7- BY 7-FOOT TRANSONIC WIND TUNNEL (1A69)                  |
| 2123                       | 141,504              | 1A53                     | RESULTS FROM INVESTIGATIONS IN THE NASA/MSFC TWT ON A 0.004 SCALE MODEL SPACE SHUTTLE LAUNCH VEHICLE (MODEL 13P-OTS) TO DETERMINE GAS SUPPLY STRUT EFFECT ON MODEL PRESSURE ENVIRONMENT (1A53) |
| 2124                       | 134,093              | 1A16/0A26                | RESULTS OF TESTS 0A26 AND 1A16 IN THE NASA/ARC 3.5-FOOT HYPERSONIC WIND TUNNEL ON A 0.015 SCALE MODEL (36-OTS) OF THE SPACE CONFIGURATION 140A/B TO OBTAIN PRESSURES FOR VENTING ANALYSIS      |
| 2125                       | 134,409              | 0A88                     | HYPERSONIC STABILITY AND CONTROL CHARACTERISTICS AND REYNOLDS NUMBER EFFECTS OF THE ROCKWELL SSV 140 A/B ORBITER CONFIGURATION   |
| 2126                       | TASK CANCELLED       | LA25                     | EFFECTS OF REACTION CONTROL SYSTEM JET SIMULATION ON THE HYPERSONIC PERFORMANCE, STABILITY AND CONTROL CHARACTERISTICS OF A .01 SCALE ROCKWELL INTERNATIONAL 139B ORBITER CONFIGURATION        |
| 2127                       | TM-X71954            | LA35                     | REYNOLDS NUMBER EFFECTS AT MACH NUMBER 10.3 ON AERODYNAMIC CHARACTERISTICS OF .01 SCALE 139-B ORBITER  |

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| 2128                       | 134, 114             | OA53A                    | INVESTIGATIONS ON AN O.030-SCALE SPACE SHUTTLE VEHICLE CONFIGURATION 140A/B ORBITER MODEL IN THE AMES RESEARCH CENTER 11-BY 11-FOOT SUPER-SONIC WIND TUNNEL (OA53A)  |
| 2128                       | 134, 115             | OA53A                    | INVESTIGATIONS ON AN O.030-SCALE SPACE SHUTTLE VEHICLE CONFIGURATION 140A/B ORBITER MODEL IN THE AMES RESEARCH CENTER 11-BY 11-FOOT SUPER-SONIC WIND TUNNEL (OA53A)  |
| 2129                       | 141, 522             | 1A14B                    | AIRLOADS INVESTIGATION OF AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 140A/B LAUNCH CONFIGURATION (MODEL 47-OTS) IN THE ARC 9- BY 7-FOOT UNITARY PLAN WIND TUNNEL FOR MACH 1.55 AND 2.2 (1A14B)  |
| 2129                       | 141, 523             | 1A14B                    | AIRLOADS INVESTIGATION OF AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 140A/B LAUNCH CONFIGURATION (MODEL 47-OTS) IN THE ARC 9- BY 7-FOOT UNITARY PLAN WIND TUNNEL FOR MACH 1.55 AND 2.2 (1A14B)  |
| 2130                       | 141, 529             | OA22A                    | AIRLOADS INVESTIGATION OF AN O.030-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 140A/B ORBITER CONFIGURATION (MODEL 47-0) IN THE ARC 11-FOOT UNITARY PLAN WIND TUNNEL FOR MACH 0.6 AND 0.9 (OA22A)   |
| 2131                       | 141, 530             | OA22B                    | AIRLOADS INVESTIGATION OF AN O.030-SCALE MODEL OF THE SPACE SHUTTLE 140A/B ORBITER CONFIGURATION (MODEL 47-0) IN THE ARC 9- BY 7-FOOT UNITARY PLAN WIND TUNNEL FOR MACH 1.55 AND 2.2 (OA22B)   |
| 2132                       | 141, 535             | LA42                     | RESULTS OF DYNAMIC STABILITY TESTS CONDUCTED ON A .012 SCALE MODIFIED O89 B SHUTTLE ORBITER IN THE AEDC-VKF TUNNEL B AT A MACH NUMBER OF 8.0 (1A42)  |
| 2133                       | 134, 110             | 1A5B                     | RESULTS OF TESTS IN THE NASA/LARC 31-INCH CFHT ON AN O.010-SCALE MODEL (32-01) OF THE SPACE SHUTTLE CONFIGURATION 3 TO OBTAIN HYPERSONIC AERODYNAMIC CHARACTERISTICS FOR SECOND STAGE OPERATION DURING NOMINAL BOOST AND THE ABORT RTLS MODE |
| 2134 R-01                  | 134, 429             | OA77/OA78                | RESULTS OF INVESTIGATIONS (OA77 AND OA78) ON AN O.015-SCALE 140A/B CONFIGURATION SPACE SHUTTLE VEHICLE ORBITER MODEL 49-0 IN THE AEDC VKF B AND C WIND TUNNELS   |
| 2135                       | TASK CANCELLED       | LA13                     | RESULTS OF HEAT TRANSFER TESTS OF AN O.0175-SCALE SPACE SHUTTLE VEHICLE MODEL 22 OTS IN THE NASA-AMES 3.5-FOOT HYPERSONIC WIND TUNNEL (IH3)  |
| 2136                       | 141, 514             | 1H3                      |  |

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| 2136                       | 141, 515             | IH3                      | RESULTS OF HEAT TRANSFER TESTS OF AN O.0175-SCALE SPACE SHUTTLE VEHICLE MODEL 22 OTS IN THE NASA-AMES 3.5-FOOT HYPERSONIC WIND TUNNEL (IH3)   |
| 2136                       | 141, 516             | IH3                      | RESULTS OF HEAT TRANSFER TESTS OF AN O.0175-SCALE SPACE SHUTTLE VEHICLE MODEL 22 OTS IN THE NASA-AMES 3.5-FOOT HYPERSONIC WIND TUNNEL (IH3)   |
| 2136                       | 141, 517             | IH3                      | RESULTS OF HEAT TRANSFER TESTS OF AN O.0175-SCALE SPACE SHUTTLE VEHICLE MODEL 22 OTS IN THE NASA-AMES 3.5-FOOT HYPERSONIC WIND TUNNEL (IH3)   |
| 2137                       | 134, 106             | OA105                    | RESULTS OF TESTS IN THE NASA/LARC 31-INCH CFHT ON A O.01-SCALE MODEL (32-OT) OF THE SPACE SHUTTLE CONFIGURATION 3 TO DETERMINE THE RCS JET FLOWFIELD INTERACTION EFFECTS ON AERODYNAMIC CHARACTERISTICS(IA60/OA105)               |
| 2137 R-01                  | 134, 103             | IA60                     | RESULTS OF TESTS IN THE NASA/LARC 31-INCH CFHT ON A O.01-SCALE MODEL (32-OT) OF THE SPACE SHUTTLE CONFIGURATION 3 TO DETERMINE THE RCS JET FLOWFIELD INTERACTION EFFECTS ON AERODYNAMIC CHARACTERISTICS(IA60/OA105) VOLUME 1 OF 2 |
| 2138                       | 144, 608             | IH4                      | AEROHEATING(PRESSURE) CHARACTERISTICS OF A O.010-SCALE VERSION OF THE VEHICLE 3 SPACE SHUTTLE CONFIGURATION(26-OTS) IN THE LANGLEY RESEARCH CENTER 4-FOOT WIND TUNNEL(IH4)  |
| 2138                       | 144, 609             | IH4                      | AEROHEATING(PRESSURE) CHARACTERISTICS OF A O.010-SCALE VERSION OF THE VEHICLE 3 SPACE SHUTTLE CONFIGURATION(26-OTS) IN THE LANGLEY RESEARCH CENTER 4-FOOT WIND TUNNEL(IH4)  |
| 2138                       | 144, 610             | IH4                      | AEROHEATING(PRESSURE) CHARACTERISTICS OF A O.010-SCALE VERSION OF THE VEHICLE 3 SPACE SHUTTLE CONFIGURATION(26-OTS) IN THE LANGLEY RESEARCH CENTER 4-FOOT WIND TUNNEL(IH4)  |
| 2138                       | 144, 611             | IH4                      | AEROHEATING(PRESSURE) CHARACTERISTICS OF A O.010-SCALE VERSION OF THE VEHICLE 3 SPACE SHUTTLE CONFIGURATION(26-OTS) IN THE LANGLEY RESEARCH CENTER 4-FOOT WIND TUNNEL(IH4)  |
| 2139                       | 134, 407             | OA118                    | EFFECT OF ELEVEN GAP CONFIGURATIONS ON THE LONGITUDINAL AND LATERAL/DIRECTIONAL STABILITY AND CONTROL EFFECTIVENESS OF THE 43-O SPACE SHUTTLE ORBITER (IA60/OA105)  |
| 2140                       | 134, 408             | OA37                     | INVESTIGATION OF SPACE SHUTTLE ORBITER SUBSONIC STABILITY AND CONTROL CHARACTERISTICS AND DETERMINATION OF CONTROL SURFACE HINGE MOMENTS IN THE ROCKWELL INTERNATIONAL LOW SPEED WIND TUNNEL (OA37)                               |

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| 2141                       | 141,538              | OH11                     | RESULTS OF TESTS OF A ROCKWELL INTERNATIONAL SPACE SHUTTLE ORBITER (-139 CONFIGURATION) O.0175-SCALE MODEL (NO.29-O) IN THE AEDC TUNNEL F TO DETERMINE HYPERSONIC HEATING EFFECTS (OH11)                   |
| 2142                       | 134,402              | FA4                      | DETERMINATION OF AERODYNAMIC STABILITY AND DRAG OF THE TITAN SRM DURING ENTRY  |
| 2143                       | 144,587              | IA61A                    | AERODYNAMIC RESULTS OF WIND TUNNEL TESTS ON AN O.010-SCALE MODEL (32-OTS) SPACE SHUTTLE INTEGRATED VEHICLE IN THE AEDC VKI 40-INCH SUPERSONIC WIND TUNNEL  |
| 2144                       | 134,427              | IA68                     | AN INVESTIGATION OF THE SUPPORT INTERFERENCE EFFECTS OF THE SSV MODEL 13P-OTS IN THE TRANSONIC AND SUPERSONIC FLOW REGIMES   |
| 2145                       | 134,420              | TA1F                     | AN INVESTIGATION TO DETERMINE THE STATIC STABILITY DURING RE-ENTRY OF THE O.003-SCALE MCR 0200 BASELINE SPACE SHUTTLE EXTERNAL TANK MODEL  |
| 2146                       | 134,092              | IS4                      | FLUTTER TESTS (IS4) OF THE O.0125-SCALE SHUTTLE REFLECTION PLANE MODEL 30-OTS IN THE LANGLEY RESEARCH CENTER 26-INCH TRANSONIC BLOWDOWN TUNNEL TEST NO. 547  |
| 2147                       | 134,097              | OA20C                    | RESULTS OF INVESTIGATIONS (OA20C) ON AN O.015-SCALE CONFIGURATION 140A/B SPACE SHUTTLE VEHICLE ORBITER MODEL (49-O) IN THE NASA/LANGLEY RESEARCH CENTER UNITARY PLAN WIND TUNNEL                           |
| 2148                       | 134,440              | IH20                     | HYPERSONIC AEROHEATING TEST OF SPACE SHUTTLE VEHICLE CONFIGURATION 3 (MODEL 22-OTS) IN THE NASA-AMES 3.5-FOOT HYPERSONIC WIND TUNNEL(IH-20)  |
| 2148                       | 134,441              | IH20                     | HYPERSONIC AEROHEATING TEST OF SPACE SHUTTLE VEHICLE CONFIGURATION 3 (MODEL 22-OTS) IN THE NASA-AMES 3.5-FOOT HYPERSONIC WIND TUNNEL(IH-20)  |
| 2149                       | 141,805              | OA90                     | RESULTS OF INVESTIGATIONS ON A O.010-SCALE 140A/B CONFIGURATION SPACE SHUTTLE VEHICLE ORBITER MODEL 72-O IN THE NASA/LANGLEY RESEARCH CENTER CONTINUOUS FLOW HYPERSONIC TUNNEL (OA90)                      |
| 2150                       | 141,511              | SA25F                    | AN INVESTIGATION OF HIGH MACH NUMBER STATIC STABILITY CHARACTERISTICS FOR A LARGE SCALE SOLID ROCKET BOOSTER   |
| 2151                       | 141,815              | OH6                      | RESULTS OF AERODYNAMIC HEAT TRANSFER TESTS OF A O.0175-SCALE MODEL OF THE ROCKWELL INTERNATIONAL SPACE SHUTTLE ORBITER 139 (MODEL NUMBER 22-O) IN THE NASA/AMES 3.5-FOOT HYPERSONIC WIND TUNNEL (TEST OH6) |

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| 2152                       | R-01<br>134,423      | 0A81                     | RESULTS OF AN INVESTIGATION OF HYPERSONIC VISCOUS INTERACTION EFFECTS ON AN O.01 SCALE SPACE SHUTTLE ORBITER S1-O MODEL IN THE AEDC-VKF HYPERVELOCITY WIND TUNNEL                                     |
| 2153                       | 151,377              | 1H1                      | INVESTIGATION OF THE HEAT TRANSFER EFFECTS ON THE 22-OTS O.0175- SCALE THIN SKIN THERMOCOUPLE MODEL (VEHICLE 3 CONFIGURATION)   |
| 2154                       | 134,437              | 0H4A                     | HEAT TRANSFER TESTS OF A O.0175-SCALE SPACE SHUTTLE ORBITER MODEL (29-O) TO DETERMINE THE EFFECT OF SURFACE TEMPERATURE ON BOUNDARY LAYER TRANSITION AT MACH 8.0 IN THE AEDC VKF TUNNEL B (TEST 0H4A) |
| 2155                       | 134,406              | 0A110                    | STABILITY AND CONTROL CHARACTERISTICS FOR THE INNER MOLD LINE CONFIGURATION OF SPACE SHUTTLE ORBITER(0A110)   |
| 2156                       | 141,797              | 1A17A                    | RESULTS OF AN EXTERNAL TANK SEPARATION TEST IN THE AEDC/VKF TUNNEL BON AN O.010 SCALE REPLICA OF THE SPACE SHUTTLE VEHICLE (MODEL 52-OT)1A17A   |
| 2156                       | 141,798              | 1A17A                    | RESULTS OF AN EXTERNAL TANK SEPARATING TEST IN THE AEDC/VKF TUNNEL BON AN O.010 SCALE REPLICA OF THE SPACE SHUTTLE VEHICLE (MODEL 52-OT)1A17A   |
| 2156                       | 141,799              | 1A17A                    | RESULTS OF AN EXTERNAL TANK SEPARATION TEST IN THE AEDC/VKF TUNNEL BON AN O.010 SCALE REPLICA OF THE SPACE SHUTTLE VEHICLE (MODEL 52-OT)1A17A   |
| 2157                       | 141,822              | 1H19                     | HEAT TRANSFER TESTS OF AN O.006-SCALE THIN SKIN SPACE SHUTTLE MODEL ( 50-O, 41-T ) IN THE LANGLEY RESEARCH CENTER NITROGEN TUNNEL AT MACH 19  |
| 2158                       | 147,640              | 1S6A                     | FLOW VISUALIZATION TESTS OF A O.004-SCALE SPACE SHUTTLE VEHICLE 2A MODEL (NO. 13-OTS) IN THE MSFC 14-INCH TRISONIC WIND TUNNEL  |
| 2159                       | 134,410              | 0A59                     | AERODYNAMIC RESULTS OF SUPPORT SYSTEM EFFECTS TESTS CONDUCTED IN NASA/ARC 6-8Y SUPERSONIC WIND TUNNEL USING A O.015-SCALE MODEL OF THE CONFIGURATION 140A/B SSV ORBITER (0A59)                        |
| 2159                       | 134,412              | 0A59                     | AERODYNAMIC RESULTS OF SUPPORT SYSTEM EFFECTS TESTS CONDUCTED IN NASA/ARC 6-8Y-6 FOOT SUPERSONIC WIND TUNNEL USING A O.015 -SCALE MODEL OF THE CONFIGURATION 140A/B SSV ORBITER (0A59)                |
| 2160                       | 134,413              | 1A18                     | WIND TUNNEL TESTS OF THE O.010-SCALE SPACE SHUTTLE INTEGRATED VEHICLE IN THE NASA/AMES 3.5 FOOT HYPERSONIC WIND TUNNEL (1A18)   |
| 2161                       | 134,422              | SA6F                     | AERODYNAMIC CHARACTERISTICS OF MSFC MODEL 454 OF THE 142 INCH SOLID ROCKET BOOSTER TESTED IN THE L-5FC 10-FOOT SWT AT MACH NUMBERS OF 2.0 AND 2.7 (SA6F)  |

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|----------------------------|----------------------|--------------------------|--|
| 2162                       | 134,430              | OA36                     | RESULTS OF INVESTIGATIONS ON AN O.015-SCALE 140A/B CONFIGURATION OF THE ROCKWELL INTERNATIONAL SPACE SHUTTLE ORBITER IN THE NASA/AMES RESEARCH CENTER 3.5-FOOT HYPERSONIC WIND TUNNEL (OA36)                   |
| 2163                       | 134,403              | OA20B                    | AERODYNAMIC RESULTS OF A SUPPORT SYSTEM INTERFERENCE EFFECTS TEST CONDUCTED AT NASA/LARC UPWT USING AN O.015-SCALE MODEL OF THE CONFIGURATION 140A/B SCV ORBITER (OA20B)                                       |
| 2164                       | 141,828              | OH12/IH21                | HEAT TRANSFER TESTS ON A O.01-SCALE ROCKWELL CONFIGURATION 3 SPACE SHUTTLE ORBITER AND TANK (37-OT) IN THE CALSPAN 48-INCH HYPERSONIC SHOCK TUNNEL (OH12/IH21)   |
| 2164                       | 141,829              | OH12/IH21                | HEAT TRANSFER TESTS ON A O.01-SCALE ROCKWELL CONFIGURATION 3 SPACE SHUTTLE ORBITER AND TANK (37-OT) IN THE CALSPAN 48-INCH HYPERSONIC SHOCK TUNNEL (OH12/IH21)   |
| 2164                       | 141,830              | OH12/IH21                | HEAT TRANSFER TESTS ON A O.01-SCALE ROCKWELL CONFIGURATION 3 SPACE SHUTTLE ORBITER AND TANK (37-OT) IN THE CALSPAN 48-INCH HYPERSONIC SHOCK TUNNEL (OH12/IH21)   |
| 2165                       | 141,823              | TA2F                     | RESULTS OF AN INVESTIGATION OF AN O.003-SCALE SPACE SHUTTLE EXTERNAL TANK (MSFC MODEL 460) IN THE NASA/MSFC 14 X 14-INCH TRISONIC WIND TUNNEL TO DETERMINE STATIC PRESSURE DISTRIBUTIONS DURING REENTRY (TA2F) |
| 2165                       | 141,824              | TA2F                     | RESULTS OF AN INVESTIGATION OF AN O.003-SCALE SPACE SHUTTLE EXTERNAL TANK (MSFC MODEL 460) IN THE NASA/MSFC 14 X 14-INCH TRISONIC WIND TUNNEL TO DETERMINE STATIC PRESSURE DISTRIBUTIONS DURING REENTRY (TA2F) |
| 2165                       | 141,825              | TA2F                     | RESULTS OF AN INVESTIGATION OF AN O.003-SCALE SPACE SHUTTLE EXTERNAL TANK (MSFC MODEL 460) IN THE NASA/MSFC 14 X 14-INCH TRISONIC WIND TUNNEL TO DETERMINE STATIC PRESSURE DISTRIBUTIONS DURING REENTRY (TA2F) |
| 2165                       | 141,826              | TA2F                     | RESULTS OF AN INVESTIGATION OF AN O.003-SCALE SPACE SHUTTLE EXTERNAL TANK (MSFC MODEL 460) IN THE NASA/MSFC 14 X 14-INCH TRISONIC WIND TUNNEL TO DETERMINE STATIC PRESSURE DISTRIBUTIONS DURING REENTRY (TA2F) |
| 2165                       | 141,827              | TA2F                     | RESULTS OF AN INVESTIGATION OF AN O.003-SCALE SPACE SHUTTLE EXTERNAL TANK (MSFC MODEL 460) IN THE NASA/MSFC 14 X 14-INCH TRISONIC WIND TUNNEL TO DETERMINE STATIC PRESSURE DISTRIBUTIONS DURING REENTRY (TA2F) |

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| 2166                       | 141, 534             | 1H16                     | HEAT TRANSFER TESTS OF AN O.006 SCALE THIN-SKIN SPACE SHUTTLE THERMOCOUPLE MODEL (41-OTS) IN THE LANGLEY RESEARCH CENTER UNITARY PLAN WIND TUNNEL AT M=3.7 (1H16)  |
| 2167                       | 141, 550             | 0A98                     | RESULTS OF AN INVESTIGATION ON AN O.015-SCALE MODEL(49-O) OF THE ROCKWELL INTERNATIONAL SPACE SHUTTLE ORBITER IN THE NASA AMES RESEARCH CENTER 3.5-FOOT HYPERSONIC WIND TUNNEL (0A98)  |
| 2168                       | TM-X71945            | LA32                     | HEAT TRANSFER TO SURFACE AND GAPS OF RSI TILE ARRAYS IN TURBULENT FLOW AT MACH 10.3  |
| 2169                       | 141, 836             | 1A81A                    | RESULTS OF A PRESSURE LOADS INVESTIGATION ON A O.030-SCALE MODEL (47-OTS) OF THE INTEGRATED SPACE SHUTTLE VEHICLE CONFIGURATION 5 IN THENASA AMES RESEARCH CENTER 11 X 11 FOOT LEG OF THE UNITARY PLAN WIND TUNNEL (1A81A) VOLUME 1 OF 7 |
| 2169                       | 141, 837             | 1A81A                    | RESULTS OF A PRESSURE LOADS INVESTIGATION ON A O.030-SCALE MODEL (47-OTS) OF THE INTEGRATED SPACE SHUTTLE VEHICLE CONFIGURATION 5 IN THENASA AMES RESEARCH CENTER 11 X 11 FOOT LEG OF THE UNITARY PLAN WIND TUNNEL (1A81A) VOLUME 2 OF 7 |
| 2169                       | 141, 838             | 1A81A                    | RESULTS OF A PRESSURE LOADS INVESTIGATION ON A O.030-SCALE MODEL (47-OTS) OF THE INTEGRATED SPACE SHUTTLE VEHICLE CONFIGURATION 5 IN THENASA AMES RESEARCH CENTER 11 X 11 FOOT LEG OF THE UNITARY PLAN WIND TUNNEL (1A81A) VOLUME 3 OF 7 |
| 2169                       | 141, 839             | 1A81A                    | RESULTS OF A PRESSURE LOADS INVESTIGATION ON A O.030-SCALE MODEL (47-OTS) OF THE INTEGRATED SPACE SHUTTLE VEHICLE CONFIGURATION 5 IN THENASA AMES RESEARCH CENTER 11 X 11 FOOT LEG OF THE UNITARY PLAN WIND TUNNEL (1A81A) VOLUME 4 OF 7 |
| 2169                       | 141, 840             | 1A81A                    | RESULTS OF A PRESSURE LOADS INVESTIGATION ON A O.030-SCALE MODEL (47-OTS) OF THE INTEGRATED SPACE SHUTTLE VEHICLE CONFIGURATION 5 IN THENASA AMES RESEARCH CENTER 11 X 11 FOOT LEG OF THE UNITARY PLAN WIND TUNNEL (1A81A) VOLUME 5 OF 7 |
| 2169                       | 141, 841             | 1A81A                    | RESULTS OF A PRESSURE LOADS INVESTIGATION ON A O.030-SCALE MODEL (47-OTS) OF THE INTEGRATED SPACE SHUTTLE VEHICLE CONFIGURATION 5 IN THENASA AMES RESEARCH CENTER 11 X 11 FOOT LEG OF THE UNITARY PLAN WIND TUNNEL (1A81A) VOLUME 6 OF 7 |
| 2169                       | 141, 842             | 1A81A                    | RESULTS OF A PRESSURE LOADS INVESTIGATION ON A O.030-SCALE MODEL (47-OTS) OF THE INTEGRATED SPACE SHUTTLE VEHICLE CONFIGURATION 5 IN THENASA AMES RESEARCH CENTER 11 X 11 FOOT LEG OF THE UNITARY PLAN WIND TUNNEL (1A81A) VOLUME 7 OF 7 |



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|----------------------------|----------------------|--------------------------|---|
| 2170                       | 141.543              | V-01                     | RESULTS OF A JET PLUME EFFECTS TEST ON THE ROCKWELL INTERNATIONAL INTEGRATED SPACE SHUTTLE VEHICLE USING A VEHICLE 5 CONFIGURATION 0.02-SCALE MODEL (88-OTS) IN THE 11 X 11 FOOT LEG OF THE NASA/AMES RESEARCH CENTER UNITARY PLAN WIND TUNNEL (1A19) |
| 2170                       | 141.544              | V-02                     | RESULTS OF A JET PLUME EFFECTS TEST ON THE ROCKWELL INTERNATIONAL INTEGRATED SPACE SHUTTLE VEHICLE USING A VEHICLE 5 CONFIGURATION 0.02-SCALE MODEL (88-OTS) IN THE 11 X 11 FOOT LEG OF THE NASA/AMES RESEARCH CENTER UNITARY PLAN WIND TUNNEL (1A19) |
| 2170                       | 141.545              | V-03                     | RESULTS OF A JET PLUME EFFECTS TEST ON THE ROCKWELL INTERNATIONAL INTEGRATED SPACE SHUTTLE VEHICLE USING A VEHICLE 5 CONFIGURATION 0.02-SCALE MODEL (88-OTS) IN THE 11 X 11 FOOT LEG OF THE NASA/AMES RESEARCH CENTER UNITARY PLAN WIND TUNNEL (1A19) |
| 2171                       | 144.584              | V-01                     | RESULTS OF PRESSURE DISTRIBUTION TESTS OF A 0.010-SCALE SPACE SHUTTLE ORBITER MODEL (61-0) IN THE NASA/ARC 3.5-FOOT HYPERSONIC WIND TUNNEL ( OH38 )   |
| 2171                       | 144.585              | V-02                     | RESULTS OF PRESSURE DISTRIBUTION TESTS OF A 0.010-SCALE SPACE SHUTTLE ORBITER MODEL (61-0) IN THE NASA/ARC 3.5-FOOT HYPERSONIC WIND TUNNEL ( OH38 )   |
| 2171                       | 144.586              | V-03                     | RESULTS OF PRESSURE DISTRIBUTION TESTS OF A 0.010-SCALE SPACE SHUTTLE ORBITER MODEL (61-0) IN THE NASA/ARC 3.5-FOOT HYPERSONIC WIND TUNNEL ( OH38 )   |
| 2172                       | 134.415              | DA99                     | RESULTS OF REACTION CONTROL SYSTEM ON-ORBIT JET USING AN 0.0175-SCALE CONFIGURATION 3 SPACE SHUTTLE ORBITER MODEL (21-0) IN THE LARC 60-FOOT VACUUM SPHERE  |
| 2173                       | 134.107              | 1A8                      | AERODYNAMIC RESULTS OF AN ABORT SEPARATION EFFECTS TEST (1A8) CONDUCTED IN THE NASA/LARC 14-FOOT TRANSONIC WIND TUNNEL ON A MODEL (6-OTS) OF THE ROCKWELL INTERNATIONAL LAUNCH CONFIGURATION INTEGRATED VEHICLE                                       |
| 2174                       | 141.811              | V-01                     | AN INVESTIGATION IN THE MSFC 14-INCH TWT TO DETERMINE THE STATIC STABILITY CHARACTERISTICS OF THE 0.004-SCALE MODEL (74-OTS) SPACE SHUTTLE VEHICLE 5 CONFIGURATION (1A33)   |
| 2174                       | 141.812              | V-02                     | AN INVESTIGATION IN THE MSFC 14-INCH TWT TO DETERMINE THE STATIC STABILITY CHARACTERISTICS OF THE 0.004-SCALE MODEL (74-OTS) SPACE SHUTTLE VEHICLE 5 CONFIGURATION (1A33)   |

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|----------------------------|----------------------|--------------------------|---|
| 2174                       | 141.813              | IA33                     | AN INVESTIGATION IN THE MSFC 14-INCH TWT TO DETERMINE THE STATIC STABILITY CHARACTERISTICS OF THE O.004-SCALE MODEL (74-OTS) SPACE SHUTTLE VEHICLE 5 CONFIGURATION (IA33)   |
| 2175                       | 134.431              | IA70                     | SUBSONIC AND TRANSONIC HINGE MOMENT AND WING BENDING/TORSION CHARACTERISTICS FOR THE -140A/B INTEGRATED SPACE SHUTTLE VEHICLE (IA70) VOLUME 1 OF 3  |
| 2175                       | 134.432              | IA70                     | SUBSONIC AND TRANSONIC HINGE MOMENT AND WING BENDING/TORSION CHARACTERISTICS FOR THE -140A/B INTEGRATED SPACE SHUTTLE VEHICLE (IA70) VOLUME 2 OF 3  |
| 2175                       | 134.433              | IA70                     | SUBSONIC AND TRANSONIC HINGE MOMENT AND WING BENDING/TORSION CHARACTERISTICS FOR THE -140A/B INTEGRATED SPACE SHUTTLE VEHICLE (IA70) VOLUME 3 OF 3  |
| 2176                       | TM-X72661            | LA40                     | SPACE SHUTTLE ORBITER TRIMMED CENTER OF GRAVITY EXTENSION STUDY VOLUME IV - EFFECTS OF CONFIGURATION MODIFICATIONS ON THE AERODYNAMICS OF THE 139B ORBITER AT MACH 20.3   |
| 2177                       | 141.510              | OA83                     | RESULTS OF INVESTIGATIONS ON AN O.015-SCALE CONFIGURATION 140A/B SPACE SHUTTLE VEHICLE ORBITER REACTION CONTROL SYSTEM PLUME-IMPINGEMENT MODEL 36-O IN THE NASA/AMES RESEARCH CENTER 3.5-FOOT HYPERSONIC WIND TUNNEL (OA83) |
| 2178                       | 134.119              | OA53B                    | INVESTIGATIONS ON AN O.030-SCALE SPACE SHUTTLE VEHICLE CONFIGURATION 140A/B ORBITER MODEL IN THE AMES RESEARCH CENTER 9- BY 7-FOOT SUPER-SONIC WIND TUNNEL (OA53B)  |
| 2179                       | 151.378              | OS8A/B                   | RESULTS OF AN INVESTIGATION OF THE ACOUSTIC AND VIBRATIONAL ENVIRONMENT OF A FULL SCALE SPACE SHUTTLE ORBITER STRUCTURAL TEST PANEL WITH SIMULATED TPS IN THE AMES UNITARY PLAN WIND TUNNEL (MODEL 81-O, TEST OS8A AND B)   |
| 2180                       | 147.615              | IH28                     | HEAT TRANSFER TEST OF AN O.006-SCALE THIN-SKIN THERMOCOUPLE SPACE SHUTTLE MODEL (50-O.41T) IN THE NASA-AMES RESEARCH CENTER 3.5-FOOT HYPERSONIC WIND TUNNEL AT MACH 5.3 (IH-28)   |
| 2180                       | 147.616              | IH28                     | HEAT TRANSFER TEST OF AN O.006-SCALE THIN-SKIN THERMOCOUPLE SPACE SHUTTLE MODEL (50-O.41T) IN THE NASA-AMES RESEARCH CENTER 3.5-FOOT HYPERSONIC WIND TUNNEL AT MACH 5.3 (IH-28)   |
| 2181                       | 134.425              | TA9F                     | A HYPERSONIC FORCE AND MOMENT TEST OF A O.006 SCALE MODEL OF THE 330.2 INCH DIAMETER EXTERNAL TANK IN THE AMES RESEARCH CENTER 3.5 FT. HYPERSONIC WIND TUNNEL (TA9F)  |

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| 2182                       | 151,062              | LA49                     | SUPERSONIC CONTROL EFFECTIVENESS FOR FULL AND PARTIAL SPAN ELEVON CONFIGURATIONS ON A 0.0165 SCALE MODEL SPACE SHUTTLE ORBITER TESTED IN THE LARC UNITARY PLAN WIND TUNNEL   |
| 2183                       | TM-X72661            | LA51                     | SPACE SHUTTLE ORBITER TRIMMED CENTER-OF-GRAVITY EXTENSION STUDY: VOLUME II--EFFECTS OF CONFIGURATION MODIFICATIONS ON THE AERODYNAMIC CHARACTERISTICS OF THE 140A/B ORBITER AT TRANSONIC SPEEDS  |
| 2184                       | 151,061              | LA48                     | TRANSONIC CONTROL EFFECTIVENESS FOR FULL AND PARTIAL SPAN ELEVON CONFIGURATIONS ON A 0.0165 SCALE MODEL SPACE SHUTTLE ORBITER TESTED IN THE LARC 8-FOOT TRANSONIC PRESSURE TUNNEL  |
| 2185                       | 134,120              | OA53C                    | INVESTIGATIONS ON AN 0.030-SCALE SPACE SHUTTLE VEHICLE CONFIGURATION 140A/B ORBITER MODEL IN THE AMES RESEARCH CENTER UNITARY PLAN 8-BY 7-FOOT SUPERSONIC WIND TUNNEL  |
| 2186                       | 134,428              | OA116                    | RESULTS OF DIFFERENTIAL ELEVON/AILERON DEFLECTION FOR LATERAL CONTROL OPTIMIZATION AND ELEVON HINGE MOMENT INVESTIGATIONS ON AN 0.015-SCALE MODEL (49-O) OF THE SPACE SHUTTLE ORBITER IN THE NASA/LANGLEY RESEARCH CENTER 8-FOOT TRANSONIC PRESSURE TUNNEL |
| 2187                       | 134,421              | OA119A                   | EFFECTS OF WING/ELEVON GAP SEALING FLAPPER DOORS ON ORBITER ELEVON EFFECTIVENESS (OA119A)  |
| 2188                       | TM-X                 | LA39                     | ** TO BE PUBLISHED AT LARC **  |
| 2189                       | 141,506              | IA110                    | RESULTS OF INVESTIGATION IA110 ON A 0.015-SCALE INTEGRATED CONFIGURATION OF THE SPACE SHUTTLE VEHICLE IN THE ARC 9X7 SUPERSONIC WIND TUNNEL USING MODELS 67-TS AND 49-O  |
| 2190                       | 141,537              | OA108                    | INVESTIGATION IN THE MSFC TWT TO VERIFY THE STATIC STABILITY AND CONTROL EFFECTIVENESS OF THE 0.004-SCALE MODEL (74-O) OF THE SHUTTLE 5 ORBITER (OA-108)   |
| 2191                       | TM-X72661            | LA47                     | SPACE SHUTTLE ORBITER TRIMMED CENTER OF GRAVITY EXTENSION STUDY: VOLUME I--EFFECTS OF CONFIGURATIONS ON THE AERODYNAMIC CHARACTERISTICS OF THE 140 A/B ORBITER AT MACH 10.3  |
| 2192                       | 141,541              | IA87                     | AERODYNAMIC RESULTS OF A SEPARATION EFFECTS TEST (IA87) ON A 0.01-SCALE MODEL (52-OTS) OF THE INTEGRATED SSV IN THE AEDC/VKF 40-BY-40 INCH SUPERSONIC WIND TUNNEL A  |

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| 2192                        | 141,542              | 1A87                     | AERODYNAMIC RESULTS OF A SEPARATION EFFECTS TEST (1A87) ON A 0.01-SCALE MODEL (52-OTS) OF THE INTEGRATED SSV IN THE AEDC/VKF 40-BY-40 INCH SUPERSONIC WIND TUNNEL A   |
| 2193                        | 151,380              | 0H26                     | RESULTS OF HEAT TRANSFER TEST OF A 0.0175-SCALE SPACE SHUTTLE ORBITER 140B MODEL (MODIFIED 22-0) IN THE NASA-AMES RESEARCH CENTER 3.5-FOOT HYPERSONIC WIND TUNNEL   |
| 2194                        | 141,817              | 1A81B                    | RESULTS OF A PRESSURE LOADS INVESTIGATION ON A 0.030-SCALE MODEL (47-OTS) OF THE INTEGRATED SPACE SHUTTLE VEHICLE CONFIGURATION 5 IN THE NASA AMES RESEARCH CENTER 9 X 7 FOOT LEG OF THE UNITARY PLAN WIND TUNNEL (1A81B) VOLUME 1 OF 5 |
| 2194                        | 141,818              | 1A81B                    | RESULTS OF A PRESSURE LOADS INVESTIGATION ON A 0.030-SCALE MODEL (47-OTS) OF THE INTEGRATED SPACE SHUTTLE VEHICLE CONFIGURATION 5 IN THE NASA AMES RESEARCH CENTER 9 X 7 FOOT LEG OF THE UNITARY PLAN WIND TUNNEL (1A81B) VOLUME 2 OF 5 |
| 2194                        | 141,819              | 1A81B                    | RESULTS OF A PRESSURE LOADS INVESTIGATION ON A 0.030-SCALE MODEL (47-OTS) OF THE INTEGRATED SPACE SHUTTLE VEHICLE CONFIGURATION 5 IN THE NASA AMES RESEARCH CENTER 9 X 7 FOOT LEG OF THE UNITARY PLAN WIND TUNNEL (1A81B) VOLUME 3 OF 5 |
| 2194                        | 141,820              | 1A81B                    | RESULTS OF A PRESSURE LOADS INVESTIGATION ON A 0.030-SCALE MODEL (47-OTS) OF THE INTEGRATED SPACE SHUTTLE VEHICLE CONFIGURATION 5 IN THE NASA AMES RESEARCH CENTER 9 X 7 FOOT LEG OF THE UNITARY PLAN WIND TUNNEL (1A81B) VOLUME 4 OF 5 |
| 2194                        | 141,821              | 1A81B                    | RESULTS OF A PRESSURE LOADS INVESTIGATION ON A 0.030-SCALE MODEL (47-OTS) OF THE INTEGRATED SPACE SHUTTLE VEHICLE CONFIGURATION 5 IN THE NASA AMES RESEARCH CENTER 9 X 7 FOOT LEG OF THE UNITARY PLAN WIND TUNNEL (1A81B) VOLUME 5 OF 5 |
| 2195                        | 134,442              | 0A82                     | RESULTS OF TEST 0A82 IN THE NASA/LRC 31-INCH CFHT ON AN 0.010-SCALE MODEL(32-0) OF THE SPACE SHUTTLE CONFIGURATION 3 TO DETERMINE RCS JET FLOW FIELD INTERACTION AND TO INVESTIGATE RT REAL GAS EFFECTS                                 |
| 2196                        | 141,531              | 0A79                     | RESULTS OF INVESTIGATIONS OF AN 0.015 SCALE SPACE SHUTTLE VEHICLE 140A/B CONFIGURATION WITH MODIFIED OMS PODS AND ELECONS IN THE AEDC VKF TUNNEL B (0A79)   |
| 2197                        | 134,418              | FH10                     | PRESSURE AND HEAT-FLUX RESULTS FROM THE SPACE SHUTTLE/EXTERNAL FUEL TANK INTERACTION TEST AT MACH NUMBERS 16 AND 19 (FH10)  |
| 2198                        | 141,534              | 0A115                    | DIFFERENTIAL ELECON EFFECTIVENESS LATERAL CONTROL OPTIMIZATION AND ELECON HINGE MOMENT INVESTIGATION ON A 0.015-SCALE SPACE SHUTTLE ORBITER MODEL (140A/B/C MODIFIED) IN THE AEDC VKF WIND TUNNEL A (0A115)                             |

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| 2199                       | TM-X3315             | LA43A/B/LA43B            | SUPERSONIC DYNAMIC-STABILITY DERIVATIVES OF THE SPACE SHUTTLE LAUNCHVEHICLE   |
| 2200                       | TM-X3336             | LA44                     | SUBSONIC AND TRANSONIC DYNAMIC-STABILITY CHARACTERISTICS OF THE SPACE SHUTTLE LAUNCH VEHICLE  |
| 2201                       | 160.854              | CA3                      | MATED CARRIER AERODYNAMIC CHARACTERISTICS INVESTIGATION FOR O.04-SCALE MODEL BOEING 747 CARRIER (MODEL TE 1065)/SS ORBITER (MODEL 43-O) AND 747 CARRIER/ET (MODEL 1284-72) COMBINATIONS IN THE U. OF WASH. AERONAUTICAL LABORATORY (UNAL) F. K. KIRSTEN WIND TUNNEL (CA3) |
| 2202                       | 141.526              | OA123                    | SPACE SHUTTLE VEHICLE FERRY CONFIGURATION AFTERBODY FAIRING EFFECTS ON 140A/B ORBITER AERODYNAMIC CHARACTERISTICS USING AN .0405-SCALE MODEL ORBITER (43-O) IN THE ROCKWELL INTERNATIONAL 7.75 X 11 FT LOW SPEED WIND TUNNEL (OA123)                                      |
| 2203                       | 141.524              | OA119B                   | RESULTS OF AN INVESTIGATION OF ELEVON HINGE MOMENTS AND DUAL PANEL ELEVON EFFECTIVENESS USING AN .0405-SCALE MODEL (16-O) OF THE CONFIGURATION 140C SPACE SHUTTLE ORBITER IN THE ROCKWELL INTERNATIONAL NAALOW SPEED WIND TUNNEL (OA119B)                                 |
| 2204                       | 141.525              | IA43                     | RESULTS OF TRANSONIC WIND TUNNEL TESTS ON AN O.010-SCALE SPACE SHUTTLE MATED VEHICLE MODEL 72-OTS IN THE LARC 8-FOOT TPT (IA43)   |
| 2205                       | 141.532              | OA109                    | RESULTS OF A O.004-SCALE 140C MODIFIED CONFIGURATION SPACE SHUTTLE VEHICLE ORBITER MODEL (74-O) IN THE NASA/LANGLEY RESEARCH CENTER HYPERSONIC HELIUM TUNNEL (OA109)  |
| 2206                       | 141.528              | IA44                     | RESULTS OF INVESTIGATIONS ON AN O.010-SCALE 140A/B CONFIGURATION (MODEL 72OTS) OF THE ROCKWELL INTERNATIONAL SPACE SHUTTLE ORBITER IN THE NASA/LANGLEY RESEARCH CENTER UNITARY PLAN WIND TUNNEL (IA44)  |
| 2207                       | 147.608              | SA29F                    | AN INVESTIGATION TO DETERMINE THE PRESSURE DISTRIBUTION ON THE O.0137 SCALE SOLID ROCKET BOOSTER FOREBODY (MSFC MODEL 467) AT HIGH ANGLES OF ATTACK AT OR NEAR 90 DEGREES AND HIGH REYNOLDS NUMBERS IN THE MSFC HIGH REYNOLDS NUMBER WIND TUNNEL                          |
| 2208                       | 144.590              | V-01                     | AN INVESTIGATION OF THE O.0091SCALE EXTERNAL TANK OGIVE NOSE (MSFC MODEL 470) IN THE MSFC 14 INCH TWT TO DETERMINE THE PRESSURE DISTRIBUTION AROUND THE EXTERNAL TANK NOSE  |
| 2208                       | 144.591              | V-02                     | AN INVESTIGATION OF THE O.0091SCALE EXTERNAL TANK OGIVE NOSE (MSFC MODEL 470) IN THE MSFC 14 INCH TWT TO DETERMINE THE PRESSURE DISTRIBUTION AROUND THE EXTERNAL TANK NOSE  |

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|----------------------------|----------------------|--------------------------|---|
| 2209                       | 141,536              | 0A124                    | RESULTS OF A SPACE SHUTTLE VEHICLE FERRY CONFIGURATION AFTERBODY FAIRING<br>OPTIMIZATION STUDY USING A 140A/B O.0405-SCALE MODEL ORBITER (43-O) IN THE<br>ROCKWELL INTERNATIONAL 7.75 X 11.0 FT LOW SPEED WIND TUNNEL (0A124) |
| 2210                       | 151,372              | 1H27                     | CONNECTIVE HEAT-TRANSFER TEST RESULTS FOR A GAP, CYLINDRICAL-PROTUBERANCE, AND<br>SHOCK-IMPINGEMENT FLAT-PLATE MODEL IN THE NASA-AMES 3.5-FOOT HYPERSONIC WIND<br>TUNNEL (TEST 1H27, MODEL 15-O VIII)                         |
| 2211                       | 141,800              | CA5                      | RESULTS OF A O.03-SCALE AERODYNAMIC CHARACTERISTICS INVESTIGATION OF A BOEING<br>747 CARRIER(MODEL NO. AX-1319 I-1) MATED WITH A SPACE SHUTTLE ORBITER (MODEL<br>45-O) CONDUCTED IN THE BOEING TRANSONIC WIND TUNNEL (CA5)    |
| 2211                       | 141,803              | CA5                      | RESULTS OF A O.03-SCALE AERODYNAMIC CHARACTERISTICS INVESTIGATION OF LE<br>ORBITER (MODEL 45-O) CONDUCTED IN THE BOEING TRANSONIC WIND TUNNEL (CA5)   |
| 2211                       | 141,804              | CA5                      | RESULTS OF A O.03-SCALE AERODYNAMIC CHARACTERISTICS INVESTIGATION OF A BOEING<br>747 CARRIER(MODEL NO. AX-1319 I-1) MATED WITH A SPACE SHUTTLE ORBITER (MODEL<br>45-O) CONDUCTED IN THE BOEING TRANSONIC WIND TUNNEL (CA5)    |
| 2212                       | 147,632              | 1A80                     | INVESTIGATIONS OF THE O.020-SCALE 88-OTS INTEGRATED SPACE SHUTTLE VEHICLE<br>JET-PLUME MODEL IN THE NASA/AMES RESEARCH CENTER 11X11-FOOT UNITARY PLAN WIND<br>TUNNEL (1A80)   |
| 2212                       | 147,633              | 1A80                     | INVESTIGATIONS OF THE O.020-SCALE 88-OTS INTEGRATED SPACE SHUTTLE VEHICLE<br>JET-PLUME MODEL IN THE NASA/AMES RESEARCH CENTER 11X11-FOOT UNITARY PLAN WIND<br>TUNNEL (1A80)   |
| 2212                       | 147,634              | 1A80                     | INVESTIGATIONS OF THE O.020-SCALE 88-OTS INTEGRATED SPACE SHUTTLE VEHICLE<br>JET-PLUME MODEL IN THE NASA/AMES RESEARCH CENTER 11X11-FOOT UNITARY PLAN WIND<br>TUNNEL (1A80)   |
| 2212                       | 147,635              | 1A80                     | INVESTIGATIONS OF THE O.020-SCALE 88-OTS INTEGRATED SPACE SHUTTLE VEHICLE<br>JET-PLUME MODEL IN THE NASA/AMES RESEARCH CENTER 11X11-FOOT UNITARY PLAN WIND<br>TUNNEL (1A80)   |
| 2213                       |                      | LA53/LA54                | ** DOCUMENTATION NOT COMPLETE **  |
| 2214                       | 141,513              | 0A89                     | RESULTS OF INVESTIGATIONS ON AM O.004-SCALE 140C MODIFIED CONFIGURATION SPACE<br>SHUTTLE VEHICLE ORBITER MODEL (74-O) IN THE NASA/LANGLEY RESEARCH CENTER<br>HYPERSONIC NITROGEN TUNNEL (0A89)                                |

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|----------------------------|----------------------|--------------------------|---|
| 2215                       | 144,592              | LA58                     | UPPER WING SURFACE BOUNDARY LAYER MEASUREMENTS AND STATIC AERODYNAMIC DATA OBTAINED ON AN O.015-SCALE MODEL OF THE SSV ORBITER CONFIGURATION 140A/B IN THE LTV ASWT AT A MACH NUMBER OF 4.6 (LA58)  |
| 2216                       | 141,802              | SH12F                    | RESULTS OF AEROTHERMODYNAMIC HEATING TEST ON A O.013 SCALE MODEL SOLID ROCKET BOOSTER IN THE NASA/LARC UNITARY PLAN WIND TUNNEL (SH12F)   |
| 2217                       | 141,844              | V-01                     | AERODYNAMIC RESULTS OF A SEPARATION TEST(CA20) CONDUCTED AT THE BOEING TRANSONIC WIND TUNNEL USING O.030-SCALE MODELS OF THE CONFIGURATION 140A/B (MODIFIED) SSV ORBITER (MODEL NO. 45-O) AND THE BOEING 747CARRIER (MODEL NO. AX 1319 I-1) |
| 2217                       | 141,845              | V-02                     | AERODYNAMIC RESULTS OF A SEPARATION TEST(CA20) CONDUCTED AT THE BOEING TRANSONIC WIND TUNNEL USING O.030-SCALE MODELS OF THE CONFIGURATION 140A/B (MODIFIED) SSV ORBITER (MODEL NO. 45-O) AND THE BOEING 747CARRIER (MODEL NO. AX 1319 I-1) |
| 2217                       | 141,846              | V-03                     | AERODYNAMIC RESULTS OF A SEPARATION TEST(CA20) CONDUCTED AT THE BOEING TRANSONIC WIND TUNNEL USING O.030-SCALE MODELS OF THE CONFIGURATION 140A/B (MODIFIED) SSV ORBITER (MODEL NO. 45-O) AND THE BOEING 747CARRIER (MODEL NO. AX 1319 I-1) |
| 2218                       | 151,367              | TH1F                     | PRESSURE AND HEAT TRANSFER TESTS RESULTS ON THE SPACE SHUTTLE O.015-SCALE EXTERNAL TANK AT MACH 16 IN AEDC TUNNEL F   |
| 2219                       | 144,597              | V-01                     | RESULTS OF AN INVESTIGATION OF JET PLUME EFFECTS ON AN O.010-SCALE MODEL (75-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE 8- BY 7-FOOT LEG OF THE NASA/AMES UNITARY WIND TUNNEL (IA82C)  |
| 2219                       | 144,598              | V-02                     | RESULTS OF AN INVESTIGATION OF JET PLUME EFFECTS ON AN O.010-SCALE MODEL (75-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE 8- BY 7-FOOT LEG OF THE NASA/AMES UNITARY WIND TUNNEL (IA82C)  |
| 2220                       | TM-X                 | LA52                     | ** TO BE PUBLISHED AT LARC **   |
| 2221                       | 141,548              | DA143                    | INVESTIGATION OF SPACE SHUTTLE VEHICLE 140C CONFIGURATION ORBITER (MODEL 16-O) WHEEL WELL PRESSURE LOADS IN THE ROCKWELL INTERNATIONAL 7.75 X 11 FOOT WIND TUNNEL ( OA143 )   |
| 2222                       | 147,626              | V-01                     | RESULTS FROM A CONNECTIVE HEAT-TRANSFER-RATE DISTRIBUTION TEST ON A O.0175 SCALE MODEL(22-O) OF THE ROCKWELL INTERNATIONAL VEHICLE 4 SPACE SHUTTLE CONFIGURATION IN THE AEDC-VKF TUNNEL B(OH498)  |

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|----------------------------|----------------------|--------------------------|--|
| 2222                       | 147.627              | V-02                     | RESULTS FROM A CONVECTIVE HEAT-TRANSFER-RATE DISTRIBUTION TEST ON A 0.0175 SCALE MODEL(22-0) OF THE ROCKWELL INTERNATIONAL VEHICLE 4 SPACE SHUTTLE CONFIGURATION IN THE AEDC-VKF TUNNEL B(OH49B)                         |
| 2223                       | 141.549              | SA8F                     | REENTRY STATIC STABILITY CHARACTERISTICS OF A .005479 SCALE MODEL 145-INCH SOLID ROCKET BOOSTER TESTED IN THE NASA/MSFC 14X14 INCH TWT   |
| 2224                       | 147.650              | LA56                     | RESULTS OF A DRAG REDUCTION INVESTIGATION ON AN 0.010-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 72-OTS LAUNCH CONFIGURATION TESTED IN THE LARC 8-FOOT TRANSONIC PRESSURE TUNNEL FOR THE MACH RANGE OF 0.35 TO 1.20 (LA56) |
| 2225                       | 141.505              | OH4C                     | PHASE CHANGE PAINT TESTS TO INVESTIGATE EFFECTS OF TPS TILES ON HEATING RATES OF THE ROCKWELL SPACE SHUTTLE ORBITER (TEST OH4C, MODEL 21-0)  |
| 2226                       | 141.507              | IA61B                    | RESULTS OF FLOW VISUALIZATION TESTS OF 0.010-SCALE SPACE SHUTTLE MODELS 32-OTS AND 52-0 IN THE AEDC VKF TUNNEL A (IA61B)   |
| 2227                       | 141.806              | IA71                     | RESULTS OF EXPERIMENTAL TESTS IN THE MSFC 14X14 INCH TRISONIC TUNNEL ON A .004 SCALE MODEL SPACE SHUTTLE INTEGRATED VEHICLE 5 (MODEL 77-0, 74-TS) TO RELIEVE WING LOADS DURING ASCENT (IA71)                             |
| 2228                       | TM-X72661            | LA46A/B                  | ** TO BE PUBLISHED AT LARC **  |
| 2229                       | 141.508              | OA102                    | RESULTS OF FLOW-VISUALIZATION INVESTIGATIONS ON A 0.015-SCALE MODIFIED CONFIGURATION 140A/B SPACE SHUTTLE VEHICLE ORBITER (MODEL 36-0) IN THE LANGLEY RESEARCH CENTER  |
| 2230                       | 141.509              | IA17B                    | RESULTS OF OIL FLOW VISUALIZATIONS TESTS OF AN 0.010-SCALE MODEL (52-0T) OF THE SPACE SHUTTLE ORBITER-TANK MATED AND ORBITER CONFIGURATIONS IN THE AEDC VKF TUNNEL B (IA17B)   |
| 2231                       | 144.601              | IA82B                    | RESULTS OF AN INVESTIGATION OF JET PLUME EFFECTS ON AN 0.010-SCALE MODEL (75-0TS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE 9- BY 7-FOOT LEG OF THE NASA/AMES UNITARY WIND TUNNEL (IA82C)                           |
| 2231                       | 144.602              | IA82B                    | RESULTS OF AN INVESTIGATION OF JET PLUME EFFECTS ON AN 0.010-SCALE MODEL (75-0TS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE 9- BY 7-FOOT LEG OF THE NASA/AMES UNITARY WIND TUNNEL (IA82C)                           |
| 2232                       | 141.521              | OA131                    | RESULTS OF INVESTIGATIONS ON THE 0.004-SCALE MODEL 74-0 OF THE CONFIGURATION 4 (MODIFIED) SPACE SHUTTLE VEHICLE ORBITER IN THE NASA/MSFC 14-BY-14-INCH TRISONIC WIND TUNNEL (OA131)                                      |



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| 2233                       | 151.068              | LA59                     | RESULTS OF A DRAG REDUCTION INVESTIGATION ON AN O.010-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE 72-OTS LAUNCH CONFIGURATION TESTED IN THE LARC 8-FOOT TRANSONIC PRESSURE TUNNEL FOR THE MACH RANGE OF 0.3K TO 1.20        |
| 2234                       | 141.547              | OA113                    | WIND TUNNEL TEST OA113 OF THE O.010-SCALE SPACE SHUTTLE ORBITER MODEL 51-O IN THE CALSPAN HYPERSONIC SHOCK TUNNEL (48-INCH LEG)  |
| 2235                       | 141.810              | SA30F                    | REENTRY AERODYNAMIC FORCES AND MOMENTS ON THE ENGINE NOZZLE OF THE 146-INCH SOLID ROCKET BOOSTER MODEL 473 IN MSFC 14 X 14 INCH TRISONICWIND TUNNEL (SA30F)  |
| 2236                       | 141.835              | CA11                     | MATED AERODYNAMIC CHARACTERISTICS INVESTIGATION FOR O.04-SCALE MODEL BOEING 747 CAM/EXTERNAL TANK (MODEL AX1284 E-5) COMBINATION IN THE UNIVERSITY OF WASHINGTON AERONAUTICAL LABORATORY F.K. KIRSTEN WIND TUNNEL (CA11) |
| 2237                       | 141.847              | OA155                    | .. DOCUMENTATION NOT COMPLETE ..   |
| 2238                       |                      | OA93                     | RESULTS OF WIND TUNNEL RCS INTERACTION TESTS ON A O.010-SCALE SPACE SHUTTLE ORBITER MODEL (51-O) IN THE CALSPAN CORPORATION 48-INCH HYPERSONIC SHOCK TUNNEL  |
| 2239                       | TM-X                 | LA38B                    | .. TO BE PUBLISHED AT LARC ..  |
| 2240                       | 151.054              | 1H41A                    | RESULTS OF AN INVESTIGATION OF THE SPACE SHUTTLE INTEGRATED VEHICLE AERODYNAMIC HEATING CHARACTERISTICS OBTAINED USING THE O.0175-SCALE MODEL 60-OTS IN THE AEDC TUNNEL A DURING TESTS 1H41 AND 1H41A                    |
| 2241                       | 160.490              | OH39                     | AN INVESTIGATION OF ENTRY HEATING ON THE O.0175 SCALE SPACE SHUTTLE ORBITER (MODEL 60-O) IN THE AEDC UKF TUNNEL B  |
| 2241                       | 160.491              | OH39                     | AN INVESTIGATION OF ENTRY HEATING ON THE O.0175 SCALE SPACE SHUTTLE ORBITER (MODEL 60-O) IN THE AEDC UKF TUNNEL B  |
| 2241                       | 160.492              | OH39                     | AN INVESTIGATION OF ENTRY HEATING ON THE O.0175 SCALE SPACE SHUTTLE ORBITER (MODEL 60-O) IN THE AEDC UKF TUNNEL B  |
| 2241                       | 160.493              | OH39                     | AN INVESTIGATION OF ENTRY HEATING ON THE O.0175 SCALE SPACE SHUTTLE ORBITER (MODEL 60-O) IN THE AEDC UKF TUNNEL B  |
| 2242                       | 141.831              | 1A111                    | AERODYNAMIC RESULTS OF A SEPARATION EFFECTS TEST ON A O.010-SCALE MODEL (52-OTS) OF THE INTEGRATED SSV IN THE AEDC/UKF 40-BY-40 INCH SUPERSONIC WIND TUNNEL A (1A111)  |

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|----------------------------|----------------------|--------------------------|--|
| 2242                       | 144,588              | 1A111                    | AERODYNAMIC RESULTS OF A SEPARATION EFFECTS TEST ON A 0.010-SCALE MODEL (52-OTS) OF THE INTEGRATED SSV IN THE AEDC/VKF 40-BY-40 INCH SUPERSONIC WIND TUNNEL A (1A111)  |
| 2243                       | 144,583              | CA23A                    | RESULTS OF AN AERODYNAMIC INVESTIGATION OF A SPACE SHUTTLE ORBITER/747 CARRIER VEHICLE CONFIGURATION TO ESTABLISH A FREE-STREAM DATA BASE FOR ALT SEPARATION INVESTIGATIONS UTILIZING A 0.0125-SCALE MODEL (48-/OAX13181-1) IN THE ARC 14-FOOT WIND TUNNEL (CA23A)       |
| 2244                       | 151,082              | SA28F                    | AN INVESTIGATION TO DETERMINE THE STATIC PRESSURE DISTRIBUTION OF THE O.00548 SCALE SPACE SHUTTLE SOLID ROCKET BOOSTER (MSFC MODEL NUMBER 468) DURING REENTRY IN THE NASA/MSFC 14 INCH TRISONIC WIND TUNNEL  |
| 2245                       | 147,618              | OA161A/B/C               | RESULTS OF AN INVESTIGATION TO DETERMINE LOCAL FLOW CHARACTERISTICS AT THE AIR DATA PROBE LOCATIONS USING AN 0.030-SCALE MODEL (45-O) OF THE SPACE SHUTTLE VEHICLE ORBITER CONFIGURATION 140A/B (MODIFIED) IN THE NASA AMES RESEARCH CENTER UNITARY PLAN WIND TUNNEL ( ) |
| 2245                       | 147,619              | OA161A/B/C               | RESULTS OF AN INVESTIGATION TO DETERMINE LOCAL FLOW CHARACTERISTICS AT THE AIR DATA PROBE LOCATIONS USING AN 0.030-SCALE MODEL (45-O) OF THE SPACE SHUTTLE VEHICLE ORBITER CONFIGURATION 140A/B (MODIFIED) IN THE NASA AMES RESEARCH CENTER UNITARY PLAN WIND TUNNEL ( ) |
| 2246                       | 144,600              | LA65                     | LOW SUBSONIC AERODYNAMIC CHARACTERISTICS OF FIVE IRREGULAR PLANFORM WINGS WITH SYSTEMATICALLY VARYING WING FILLET GEOMETRY TESTED IN THE NASA/AMES 12-FOOT PRESSURE TUNNEL (LA65)  |
| 2247                       | 141,834              | OA160                    | RESULTS OF AN INVESTIGATION OF HYPERSONIC VISCOUS INTERACTION EFFECTS OF THE SPACE SHUTTLE ORBITER USING A 0.01/ SCALE MODEL (51-O) IN THE AEDC-VKF TUNNEL F   |
| 2248                       | 144,599              | 1H48                     | RESULTS OF HEAT TRANSFER TESTS OF A 0.0175-SCALE SPACE SHUTTLE VEHICLE 5 MODEL (60-OTS) IN THE NASA-AMES RESEARCH CENTER 3.5-FOOT HYPERSONIC WIND TUNNEL (TEST 1H48)   |
| 2249                       | 151,775              | 1H33                     | RESULTS OF SPACE SHUTTLE HEAT TRANSFER TESTS USING A 0.01-SCALE MODEL (37-OT) IN THE CALSPAN HYPERSONIC SHOCK TUNNEL (TEST 1H33)   |
| 2250                       | 141,539              | OH43                     | RESULTS OF CONVECTIVE HEATING TESTS OF A LONGITUDINAL GAP ON THE ROCKWELL FLAT PLATE MODEL (15-O, INSERT VII) IN THE NASA/AMES 3.5 FOOT HYPERSONIC WIND TUNNEL (TEST OH43)   |

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| 2251                       | 141,540              | OH9                      | RESULTS OF TESTS ON A ROCKWELL INTERNATIONAL SPACE SHUTTLE ORBITER (-139 CONFIGURATION) O.0175-SCALE MODEL (NO. 29-O) IN AEDC TUNNEL B TO DETERMINE BOUNDARY LAYER CHARACTERISTICS   |
| 2252                       | 141,546              | OH25A                    | HEAT TRANSFER PHASE CHANGE PAINT TESTS OF O.0175-SCALE MODELS (NOS. 21-O AND 46-O) OF THE ROCKWELL INTERNATIONAL SPACE SHUTTLE ORBITER IN THE AEDC TUNNEL B HYPERSONIC WIND TUNNEL (TEST OH25A)                                  |
| 2253                       | 144,833              | 1A125                    | AN INVESTIGATION IN THE MSFC INT TO DETERMINE SPOILER EFFECTS ON WING LOADS AND ELEVON HINGE MOMENTS UTILIZING O.004-SCALE MODELS (77-O AND 74-OIS) OF THE SHUTTLE VEHICLE 5 CONFIGURATION                                       |
| 2254                       | 144,619              | OA148/OA148P             | TERMINAL AREA ENERGY MANAGEMENT REGIME INVESTIGATIONS UTILIZING AN O.030-SCALE MODEL (47-O) OF THE SPACE SHUTTLE VEHICLE ORBITER CONFIGURATION 140A/B/C/R IN THE AMES RESEARCH CENTER 11 X 11 FOOT TRANSONIC WIND TUNNEL (OA148) |
| 2254                       | 144,620              | OA148/OA148P             | TERMINAL AREA ENERGY MANAGEMENT REGIME INVESTIGATIONS UTILIZING AN O.030-SCALE MODEL (47-O) OF THE SPACE SHUTTLE VEHICLE ORBITER CONFIGURATION 140A/B/C/R IN THE AMES RESEARCH CENTER 11 X 11 FOOT TRANSONIC WIND TUNNEL (OA148) |
| 2254                       | 144,621              | OA148/OA148P             | TERMINAL AREA ENERGY MANAGEMENT REGIME INVESTIGATIONS UTILIZING AN O.030-SCALE MODEL (47-O) OF THE SPACE SHUTTLE VEHICLE ORBITER CONFIGURATION 140A/B/C/R IN THE AMES RESEARCH CENTER 11 X 11 FOOT TRANSONIC WIND TUNNEL (OA148) |
| 2254                       | 144,622              | OA148/OA148P             | TERMINAL AREA ENERGY MANAGEMENT REGIME INVESTIGATIONS UTILIZING AN O.030-SCALE MODEL (47-O) OF THE SPACE SHUTTLE VEHICLE ORBITER CONFIGURATION 140A/B/C/R IN THE AMES RESEARCH CENTER 11 X 11 FOOT TRANSONIC WIND TUNNEL (OA148) |
| 2254                       | 144,623              | OA148/OA148P             | TERMINAL AREA ENERGY MANAGEMENT REGIME INVESTIGATIONS UTILIZING AN O.030-SCALE MODEL (47-O) OF THE SPACE SHUTTLE VEHICLE ORBITER CONFIGURATION 140A/B/C/R IN THE AMES RESEARCH CENTER 11 X 11 FOOT TRANSONIC WIND TUNNEL (OA148) |
| 2254                       | 144,624              | OA148/OA148P             | TERMINAL AREA ENERGY MANAGEMENT REGIME INVESTIGATIONS UTILIZING AN O.030-SCALE MODEL (47-O) OF THE SPACE SHUTTLE VEHICLE ORBITER CONFIGURATION 140A/B/C/R IN THE AMES RESEARCH CENTER 11 X 11 FOOT TRANSONIC WIND TUNNEL (OA148) |
| 2254                       | 144,625              | OA148/OA148P             | TERMINAL AREA ENERGY MANAGEMENT REGIME INVESTIGATIONS UTILIZING AN O.030-SCALE MODEL (47-O) OF THE SPACE SHUTTLE VEHICLE ORBITER CONFIGURATION 140A/B/C/R IN THE AMES RESEARCH CENTER 11 X 11 FOOT TRANSONIC WIND TUNNEL (OA148) |

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| 2254                       | 144,626              | OA148/OA148P             | TERMINAL AREA ENERGY MANAGEMENT REGIME INVESTIGATIONS UTILIZING AN O.030-SCALE MODEL (47-O) OF THE SPACE SHUTTLE VEHICLE ORBITER CONFIGURATION 140A/B/C/R IN THE AMES RESEARCH CENTER 11 X 11 FOOT TRANSONIC WIND TUNNEL (OA148) |
| 2254                       | 144,627              | OA148/OA148P             | TERMINAL AREA ENERGY MANAGEMENT REGIME INVESTIGATIONS UTILIZING AN O.030-SCALE MODEL (47-O) OF THE SPACE SHUTTLE VEHICLE ORBITER CONFIGURATION 140A/B/C/R IN THE AMES RESEARCH CENTER 11 X 11 FOOT TRANSONIC WIND TUNNEL (OA148) |
| 2254                       | 144,628              | OA148/OA148P             | TERMINAL AREA ENERGY MANAGEMENT REGIME INVESTIGATIONS UTILIZING AN O.030-SCALE MODEL (47-O) OF THE SPACE SHUTTLE VEHICLE ORBITER CONFIGURATION 140A/B/C/R IN THE AMES RESEARCH CENTER 11 X 11 FOOT TRANSONIC WIND TUNNEL (OA148) |
| 2254                       | 147,601              | OA148/OA148P             | TERMINAL AREA ENERGY MANAGEMENT REGIME INVESTIGATIONS UTILIZING AN O.030-SCALE MODEL (47-O) OF THE SPACE SHUTTLE VEHICLE ORBITER CONFIGURATION 140A/B/C/R IN THE AMES RESEARCH CENTER 11 X 11 FOOT TRANSONIC WIND TUNNEL (OA148) |
| 2254                       | 147,602              | OA148/OA148P             | TERMINAL AREA ENERGY MANAGEMENT REGIME INVESTIGATIONS UTILIZING AN O.030-SCALE MODEL (47-O) OF THE SPACE SHUTTLE VEHICLE ORBITER CONFIGURATION 140A/B/C/R IN THE AMES RESEARCH CENTER 11 X 11 FOOT TRANSONIC WIND TUNNEL (OA148) |
| 2254                       | 147,603              | OA148/OA148P             | TERMINAL AREA ENERGY MANAGEMENT REGIME INVESTIGATIONS UTILIZING AN O.030-SCALE MODEL (47-O) OF THE SPACE SHUTTLE VEHICLE ORBITER CONFIGURATION 140A/B/C/R IN THE AMES RESEARCH CENTER 11 X 11 FOOT TRANSONIC WIND TUNNEL (OA148) |
| 2255                       |                      |                          | SHADOWGRAPHS OF AIR FLOW OVER PROSPECTIVE SPACE SHUTTLE CONFIGURATIONS AT MACH NUMBERS FROM 0.8 TO 1.4   |
| 2256                       |                      | LA68                     | ** DOCUMENTATION NOT COMPLETE **   |
| 2257                       | 151,369              | LA69                     | RESULTS OF A DRAG REDUCTION INVESTIGATION ON AN O.010-SCALE MODEL OF THE SPACE SHUTTLE VEHICLE (72-OTS) LAUNCH CONFIGURATION TESTED IN THE LARC 8-FOOT TRANSONIC PRESSURE TUNNEL FOR THE MACH RANGE OF 0.35 TO 1.20              |
| 2258                       | 151,045              | V-01                     | INVESTIGATIONS ON A O.020-SCALE JET PLUME MODEL (88-OTS) OF THE ROCKWELL INTERNATIONAL INTEGRATED SSV CONFIGURATION 14DC (MODIFIED) IN THE 11-FOOT TRANSONIC WIND TUNNEL   |
| 2258                       | 151,046              | V-02                     | INVESTIGATIONS ON A O.020-SCALE JET PLUME MODEL (88-OTS) OF THE ROCKWELL INTERNATIONAL INTEGRATED SSV CONFIGURATION 14DC (MODIFIED) IN THE 11-FOOT TRANSONIC WIND TUNNEL   |

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| DMS-DR<br>REPORT<br>NUMBER | NASA<br>CR<br>NUMBER | NASA<br>SERIES<br>NUMBER | SPACE SHUTTLE VEHICLE WIND TUNNEL TEST DATA REPORT TITLE   |
|----------------------------|----------------------|--------------------------|--|
| 2258                       | 151.047              | 1A72                     | INVESTIGATIONS ON A 0.020-SCALE JET PLUME MODEL (88-OTS) OF THE ROCKWELL INTERNATIONAL INTEGRATED SSV CONFIGURATION 14DC (MODIFIED) IN THE 11-FOOT TRANSONIC WIND TUNNEL |
| 2258                       | 151.048              | 1A72                     | INVESTIGATIONS ON A 0.020-SCALE JET PLUME MODEL (88-OTS) OF THE ROCKWELL INTERNATIONAL INTEGRATED SSV CONFIGURATION 14DC (MODIFIED) IN THE 11-FOOT TRANSONIC WIND TUNNEL |
| 2258                       | 151.049              | 1A72                     | INVESTIGATIONS ON A 0.020-SCALE JET PLUME MODEL (88-OTS) OF THE ROCKWELL INTERNATIONAL INTEGRATED SSV CONFIGURATION 14DC (MODIFIED) IN THE 11-FOOT TRANSONIC WIND TUNNEL |
| 2258                       | 151.050              | 1A72                     | INVESTIGATIONS ON A 0.020-SCALE JET PLUME MODEL (88-OTS) OF THE ROCKWELL INTERNATIONAL INTEGRATED SSV CONFIGURATION 14DC (MODIFIED) IN THE 11-FOOT TRANSONIC WIND TUNNEL |
| 2258                       | 151.051              | 1A72                     | INVESTIGATIONS ON A 0.020-SCALE JET PLUME MODEL (88-OTS) OF THE ROCKWELL INTERNATIONAL INTEGRATED SSV CONFIGURATION 14DC (MODIFIED) IN THE 11-FOOT TRANSONIC WIND TUNNEL |
| 2258                       | 151.052              | 1A72                     | INVESTIGATIONS ON A 0.020-SCALE JET PLUME MODEL (88-OTS) OF THE ROCKWELL INTERNATIONAL INTEGRATED SSV CONFIGURATION 14DC (MODIFIED) IN THE 11-FOOT TRANSONIC WIND TUNNEL |
| 2258                       | 151.053              | 1A72                     | INVESTIGATIONS ON A 0.020-SCALE JET PLUME MODEL (88-OTS) OF THE ROCKWELL INTERNATIONAL INTEGRATED SSV CONFIGURATION 14DC (MODIFIED) IN THE 11-FOOT TRANSONIC WIND TUNNEL |
| 2259                       | TASK CANCELLED       | LA60A                    | ** DOCUMENTATION NOT COMPLETE **   |
| 2260                       |                      | LA60B/LA60C              | RESULTS OF TESTS USING A 0.36-SCALE MODEL (76-0) OF THE SPACE SHUTTLE VEHICLE ORBITER IN THE NASA/AMES RESEARCH CENTER 40 BY 80-FOOT SUBSONIC WIND TUNNEL (0A100)        |
| 2261                       | 167.364              | 0A100                    |  |
| 2261                       | 167.365              | 0A100                    | RESULTS OF TESTS USING A 0.36-SCALE MODEL (76-0) OF THE SPACE SHUTTLE VEHICLE ORBITER IN THE NASA/AMES RESEARCH CENTER 40 BY 80-FOOT SUBSONIC WIND TUNNEL (0A100)        |
| 2262                       | 147.630              | CA6                      | RESULTS OF A CARRIER AIRCRAFT VERIFICATION TEST IN THE BOEING 8 X 12 FDDT TRANSONIC TUNNEL USING A 0.03-SCALE 747 CAM/ORBITER MODEL 45-0                                 |

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|----------------------------|----------------------|--------------------------|---|
| 2262                       | 147,631              | CA6                      | RESULTS OF A CARRIER AIRCRAFT VERIFICATION TEST IN THE BOEING 8 X 1 2 FOOT<br>TRANSONIC TUNNEL USING A 0.03-SCALE 747 CAM/ORBITER MODEL 45-O  |
| 2263                       | 144,596              | OH74                     | RESULTS OF HEAT TRANSFER TESTS ON A 0.0175-SCALE SPACE SHUTTLE ORBITER MODEL<br>(56-O) IN THE AEDC VKF 'B' HYPERSONIC WIND TUNNEL (OH74)  |
| 2264                       | 141,843              | LA62                     | TRANSONIC STABILITY AND CONTROL CHARACTERISTICS OF A 0.015-SCALE (REMOTELY<br>CONTROLLED ELEVON) MODEL 49-O OF THE SPACE SHUTTLE ORBITER TESTED IN THE<br>NASA/LARC 8-FOOT TPT (LA62)   |
| 2265                       | 141,832              | OA159                    | RESULTS OF TESTS USING A 0.030-SCALE MODEL (45-O) OF THE SPACE SHUTTLE VEHICLE<br>ORBITER IN THE NASA/ARC 12-FOOT PRESSURE TUNNEL (OA159)   |
| 2266                       | 144,607              | LA67                     | TRANSONIC-SUPERSONIC HIGH REYNOLDS NUMBER STABILITY AND CONTROL<br>CHARACTERISTICS OF A 0.015-SCALE (REMOTELY CONTROLLED ELEVON) MODEL 44-O OF<br>THE SPACE SHUTTLE ORBITER TESTED IN THE VSD HIGH SPEED WIND TUNNEL                      |
| 2267                       | 147,604              | MA22                     | RESULTS OF TEST MA22 IN THE NASA/LARC 31-INCH CFHT ON AN 0.010-SCALEMODEL<br>(32-O) OF THE SPACE SHUTTLE CONFIGURATION 3 TO DETERMINE RCS JET FLOW FIELD<br>INTERACTION AND TO INVESTIGATE RT REAL GAS EFFECTS                            |
| 2267                       | 147,605              | MA22                     | RESULTS OF TEST MA22 IN THE NASA/LARC 31-INCH CFHT ON AN 0.010-SCALEMODEL<br>(32-O) OF THE SPACE SHUTTLE CONFIGURATION 3 TO DETERMINE RCS JET FLOW FIELD<br>INTERACTION AND TO INVESTIGATE RT REAL GAS EFFECTS                            |
| 2267                       | 147,606              | MA22                     | RESULTS OF TEST MA22 IN THE NASA/LARC 31-INCH CFHT ON AN 0.010-SCALEMODEL<br>(32-O) OF THE SPACE SHUTTLE CONFIGURATION 3 TO DETERMINE RCS JET FLOW FIELD<br>INTERACTION AND TO INVESTIGATE RT REAL GAS EFFECTS                            |
| 2267                       | 147,607              | MA22                     | RESULTS OF TEST MA22 IN THE NASA/LARC 31-INCH CFHT ON AN 0.010-SCALEMODEL<br>(32-O) OF THE SPACE SHUTTLE CONFIGURATION 3 TO DETERMINE RCS JET FLOW FIELD<br>INTERACTION AND TO INVESTIGATE RT REAL GAS EFFECTS                            |
| 2268                       | 151,396              | CA9/CA9P                 | RESULTS OF AN INVESTIGATION OF AERODYNAMIC FORCES, MOMENTS, AND PRESSURES ON<br>0.03-SCALE MODELS OF THE MATED SPACE SHUTTLE ORBITER AND CARRIER AIRCRAFT<br>(MODEL NUMBERS AX1319P-1 AND 47-O) IN THE BOEING TRANSONIC WIND TUNNEL (CA9) |
| 2268                       | 151,397              | CA9/CA9P                 | RESULTS OF AN INVESTIGATION OF AERODYNAMIC FORCES, MOMENTS, AND PRESSURES ON<br>0.03-SCALE MODELS OF THE MATED SPACE SHUTTLE ORBITER AND CARRIER AIRCRAFT<br>(MODEL NUMBERS AX1319P-1 AND 47-O) IN THE BOEING TRANSONIC WIND TUNNEL (CA9) |

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|----------------------------|----------------------|--------------------------|--|
| 2268                       | 151.398              | V-03                     | CA9/CA9P   |
| 2268                       | 151.399              | V-04                     | CA9/CA9P   |
| 2268                       | 151.400              | V-05                     | CA9/CA9P   |
| 2269                       | 147.624              |                          | LA70   |
| 2270                       | 144.579              |                          | LA63A  |
| 2271                       | 151.044              |                          | LA71A/B  |
| 2272                       | 151.077              | V-01                     | IA114  |
| 2272                       | 151.078              | V-02                     | IA114  |
| 2273                       | 144.612              | V-01                     | CA26   |
| 2273                       | 144.613              | V-02                     | CA26   |

RESULTS OF AN INVESTIGATION OF AERODYNAMIC FORCES, MOMENTS, AND PRESSURES ON O.03-SCALE MODELS OF THE MATED SPACE SHUTTLE ORBITER AND CARRIER AIRCRAFT (MODEL NUMBERS AX1319P-1 AND 47-O) IN THE BOEING TRANSONIC WIND TUNNEL (CA9)

RESULTS OF AN INVESTIGATION OF AERODYNAMIC FORCES, MOMENTS, AND PRESSURES ON O.03-SCALE MODELS OF THE MATED SPACE SHUTTLE ORBITER AND CARRIER AIRCRAFT (MODEL NUMBERS AX1319P-1 AND 47-O) IN THE BOEING TRANSONIC WIND TUNNEL (CA9)

RESULTS OF AN INVESTIGATION OF AERODYNAMIC FORCES, MOMENTS, AND PRESSURES ON O.03-SCALE MODELS OF THE MATED SPACE SHUTTLE ORBITER AND CARRIER AIRCRAFT (MODEL NUMBERS AX1319P-1 AND 47-O) IN THE BOEING TRANSONIC WIND TUNNEL (CA9)

TRANSONIC HIGH REYNOLDS NUMBER STABILITY AND CONTROL CHARACTERISTICS OF A O.015-SCALE REMOTELY CONTROLLED ELEVON MODEL (44-O) OF THE SPACE SHUTTLE ORBITER TESTED IN THE CALSPAN 8-FOOT TWT

LOW SUPERSONIC STABILITY AND CONTROL CHARACTERISTICS OF A O.015-SCALE REMOTELY CONTROLLED ELEVON MODEL (49-O) OF THE SPACE SHUTTLE ORBITER (LA63A)

SUPERSONIC STABILITY AND CONTROL CHARACTERISTICS OF A O.015 SCALE MODEL 69-O OF THE SPACE SHUTTLE ORBITER WITH FOREBODY RSI MODIFICATIONS IN THE NASA/LARC 4-FOOT UPWT (LEGS 1 AN) 2)

RESULTS OF AN INVESTIGATION OF EXTERNAL TANK SEPARATION EFFECTS USING AN O.010-SCALE MODEL (52-0T) SPACE SHUTTLE VEHICLE IN THE ARNOLD ENGINEERING DEVELOPMENT CENTER VON KARMAN FACILITY TUNNEL B

RESULTS OF AN INVESTIGATION OF EXTERNAL TANK SEPARATION EFFECTS USING AN O.010-SCALE MODEL (52-0T) SPACE SHUTTLE VEHICLE IN THE ARNOLD ENGINEERING DEVELOPMENT CENTER VON KARMAN FACILITY TUNNEL B

RESULTS OF AN AERODYNAMIC INVESTIGATION OF A SPACE SHUTTLE ORBITER/747 CARRIER FLIGHT TEST CONFIGURATION TO DETERMINE SEPARATION CHARACTERISTICS UTILIZING O.0125-SCALE MODELS (48-O/AX13181-1) IN THE LTV 4X4-FOOT HIGH SPEED WIND TUNNEL (CA26)

RESULTS OF AN AERODYNAMIC INVESTIGATION OF A SPACE SHUTTLE ORBITER/747 CARRIER FLIGHT TEST CONFIGURATION TO DETERMINE SEPARATION CHARACTERISTICS UTILIZING O.0125-SCALE MODELS (48-O/AX13181-1) IN THE LTV 4X4-FOOT HIGH SPEED WIND TUNNEL (CA26)

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|----------------------------|----------------------|--------------------------|---|
| 2273                       | 144,614              | V-03<br>CA26             | RESULTS OF AN AERODYNAMIC INVESTIGATION OF A SPACE SHUTTLE ORBITER/747 CARRIER FLIGHT TEST CONFIGURATION TO DETERMINE SEPARATION CHARACTERISTICS UTILIZING O.0125-SCALE MODELS (48-O/AX13181-1) IN THE LTV 4X4-FOOT HIGH SPEED WIND TUNNEL (CA26) |
| 2273                       | 144,615              | V-04<br>CA26             | RESULTS OF AN AERODYNAMIC INVESTIGATION OF A SPACE SHUTTLE ORBITER/747 CARRIER FLIGHT TEST CONFIGURATION TO DETERMINE SEPARATION CHARACTERISTICS UTILIZING O.0125-SCALE MODELS (48-O/AX13181-1) IN THE LTV 4X4-FOOT HIGH SPEED WIND TUNNEL (CA26) |
| 2273                       | 144,616              | V-05<br>CA26             | RESULTS OF AN AERODYNAMIC INVESTIGATION OF A SPACE SHUTTLE ORBITER/747 CARRIER FLIGHT TEST CONFIGURATION TO DETERMINE SEPARATION CHARACTERISTICS UTILIZING O.0125-SCALE MODELS (48-O/AX13181-1) IN THE LTV 4X4-FOOT HIGH SPEED WIND TUNNEL (CA26) |
| 2274                       | 144,593              | FA14                     | AN INVESTIGATION OF DRAG REDUCTION FAIRINGS ON THE SPACE SHUTTLE VEHICLE 5 CONFIGURATION (MODEL 74-OFS) IN THE MSFC 14-INCH TRANSONIC WIND TUNNEL   |
| 2275                       | 144,603              | V-01<br>CA23B            | RESULTS OF AN EXPERIMENTAL INVESTIGATION TO DETERMINE SEPARATION CHARACTERISTICS FOR THE ORBITER/747 USING A O.0125-SCALE MODEL (48-O AX13181-1 747) IN THE AMES RESEARCH CENTER 14-FOOT WIND TUNNEL (CA23B)                                      |
| 2275                       | 144,604              | V-02<br>CA23B            | RESULTS OF AN EXPERIMENTAL INVESTIGATION TO DETERMINE SEPARATION CHARACTERISTICS FOR THE ORBITER/747 USING A O.0125-SCALE MODEL (48-O AX13181-1 747) IN THE AMES RESEARCH CENTER 14-FOOT WIND TUNNEL (CA23B)                                      |
| 2276                       | 151,055              | FH13                     | HEAT TRANSFER AND SURFACE PRESSURE DATA OBTAINED ON A .0429 SCALE MODEL SSV EXTERNAL TANK NOSE SECTION AT MACH NUMBERS FROM 2.5 TO 5.5 (FH13)   |
| 2277                       | 144,579              | SA13F                    | FORCE TEST OF A 0.88 PERCENT SCALE 142-INCH DIAMETER SOLID ROCKET BOOSTER (MSFC MODEL NUMBER 461) IN THE NASA/MSFC HIGH REYNOLDS NUMBER WIND TUNNEL   |
| 2278                       | TASK CANCELLED       | LA61                     | LOW-SUBSONIC STABILITY AND CONTROL CHARACTERISTICS OF A O.010-SCALE REMOTELY CONTROLLED ELEVON MODEL (49-O) OF THE SPACE SHUTTLE ORBITER IN THE LANGLEY RESEARCH CENTER LOW TURBULENCE PRESSURE TUNNEL  |
| 2279                       | 144,606              | LA63B                    | HIGH SUPERSONIC STABILITY AND CONTROL CHARACTERISTICS OF A O.015-SCALE (REMOVEDLY CONTROLLED ELEVON) MODEL 49-O OF THE SPACE SHUTTLE ORBITER TESTED IN THE NASA/LARC 4-FOOT UPWT(LEG 2)   |
| 2280                       | 144,582              | LA28                     | HEAT-FLUX GAGE MEASUREMENTS ON A FLAT PLATE AT A MACH NUMBER OF 4.6 IN THE VSD HIGH SPEED WIND TUNNEL--A FEASIBILITY TEST (LA28)  |



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| 2281                       | 147.621              | LA66                     | SUBSONIC STABILITY AND CONTROL CHARACTERISTICS OF A 0.015-SCALE (REMOTELY CONTROLLED ELEVON) MODEL 44-O OF THE SPACE SHUTTLE ORBITER TESTED IN THE NASA/ARC 12-FOOT PRESSURE TUNNEL (LA66)                           |
| 2282                       | 151.407              | IH34                     | BASE PRESSURE AND HEAT TRANSFER TESTS OF THE 0.0225-SCALE SPACE SHUTTLE PLUME SIMULATION MODEL 19-OTS IN THE NASA-LEWIS 10X10 FOOT SWT   |
| 2283                       | 147.649              | MA14                     | A LOW SPEED WIND TUNNEL TEST OF A 0.050 SCALE MODEL OF SHUTTLE ORBITER (MODEL 089B) TO INVESTIGATE THE LONGITUDINAL AND LATERAL DIRECTIONAL EFFECTS OF CANARD AND TAIL CONFIGURATIONAL MODIFICATIONS IN THE LTV LSWT |
| 2284                       | 151.035              | V-01                     | AERODYNAMIC NOISE OF THE 0.035-SCALE INTEGRATED SPACE SHUTTLE VEHICLE MODEL (84-OTS) IN THE NASA-AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS (IS2A/B)   |
| 2284                       | 151.036              | V-02                     | AERODYNAMIC NOISE OF THE 0.035-SCALE INTEGRATED SPACE SHUTTLE VEHICLE MODEL (84-OTS) IN THE NASA-AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS (IS2A/B)   |
| 2285                       | 144.595              | OH50A                    | RESULTS OF TESTS USING THE PHASE CHANGE PAINT TECHNIQUE ON 0.04 SCALE 50 PERCENT FOREBODY MODELS (82-O) OF THE ROCKWELL SPACE SHUTTLE ORBITER  |
| 2286                       | 147.625              | OA220                    | RESULTS OF AN AIR PROBE INVESTIGATION UTILIZING A 0.10 SCALE ORBITER (MODEL 57-O) FOREBODY IN THE AMES RESEARCH CENTER 14 FOOT WIND TUNNEL (OA220)   |
| 2287                       |                      | OS13                     | ** DOCUMENTATION NOT COMPLETE **   |
| 2288                       | 151.384              | OH64                     | RESULTS OF BASE HEATING INVESTIGATIONS ON A 0.04 SCALE SPACE SHUTTLE ORBITER BASE (MODEL 25-O) IN THE NASA/LARC SPACE POWER FACILITY   |
| 2289                       | 147.611              | OA163                    | RESULTS OF A LANDING LOADS TEST USING A 0.0405-SCALE MODEL (16-O) OF THE SPACE SHUTTLE ORBITER IN THE ROCKWELL INTERNATIONAL NAAL WIND TUNNEL (OA163)  |
| 2289                       | 147.612              | OA163                    | RESULTS OF A LANDING LOADS TEST USING A 0.0405-SCALE MODEL (16-O) OF THE SPACE SHUTTLE ORBITER IN THE ROCKWELL INTERNATIONAL NAAL WIND TUNNEL (OA163)  |
| 2289                       | 147.613              | OA163                    | RESULTS OF A LANDING LOADS TEST USING A 0.0405-SCALE MODEL (16-O) OF THE SPACE SHUTTLE ORBITER IN THE ROCKWELL INTERNATIONAL NAAL WIND TUNNEL (OA163)  |
| 2289                       | 147.614              | V-04                     | RESULTS OF A LANDING LOADS TEST USING A 0.0405-SCALE MODEL (16-O) OF THE SPACE SHUTTLE ORBITER IN THE ROCKWELL INTERNATIONAL NAAL WIND TUNNEL (OA163)  |

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| 2290                       | 147,641              | CA8                      | MATED AERODYNAMIC CHARACTERISTICS INVESTIGATION FOR THE O.04 SCALE 747 CAM AND THE O.0405 SCALE SPACE SHUTTLE ORBITER IN THE NASA LANGLEY V/STOL TRANSITION RESEARCH WIND TUNNEL         |
| 2290                       | 147,642              | CA8                      | MATED AERODYNAMIC CHARACTERISTICS INVESTIGATION FOR THE O.04 SCALE 747 CAM AND THE O.0405 SCALE SPACE SHUTTLE ORBITER IN THE NASA LANGLEY V/STOL TRANSITION RESEARCH WIND TUNNEL         |
| 2290                       | 147,643              | CA8                      | MATED AERODYNAMIC CHARACTERISTICS INVESTIGATION FOR THE O.04 SCALE 747 CAM AND THE O.0405 SCALE SPACE SHUTTLE ORBITER IN THE NASA LANGLEY V/STOL TRANSITION RESEARCH WIND TUNNEL         |
| 2291                       |                      | LA79                     | ** DOCUMENTATION NOT COMPLETE **   |
| 2292                       | TM-X72661            | LA36B                    | ** TO BE PUBLISHED AT LARC **  |
| 2293                       | 151,381              | IA40                     | RESULTS OF TESTS USING A 0.010-SCALE SSV MODEL 75-OTS IN THE AEDC VKF TUNNEL A   |
| 2294                       | 160,822              | OA172                    | RESULTS OF TESTS OF A SPACE SHUTTLE ORBITER FERRY CONFIGURATION USING A 140A/B O.0405-SCALE MODEL (43-O) IN THE ROCKWELL INTERNATIONAL 7.75 X 11 FOOT LOW SPEED WIND TUNNEL (OA172)      |
| 2294                       | 160,823              | OA172                    | RESULTS OF TESTS OF A SPACE SHUTTLE ORBITER FERRY CONFIGURATION USING A 140A/B O.0405-SCALE MODEL (43-O) IN THE ROCKWELL INTERNATIONAL 7.75 X 11 FOOT LOW SPEED WIND TUNNEL (OA172)      |
| 2295                       | 151,069              | IH41B                    | RESULTS OF AN INVESTIGATION OF THE SPACE SHUTTLE INTEGRATED VEHICLE AERODYNAMIC HEATING CHARACTERISTICS OBTAINED USING THE O.0175-SCALE MODEL 60-OTS IN AEDC TUNNEL A DURING TESTS IH41B |
| 2295                       | 151,070              | IH41B                    | RESULTS OF AN INVESTIGATION OF THE SPACE SHUTTLE INTEGRATED VEHICLE AERODYNAMIC HEATING CHARACTERISTICS OBTAINED USING THE O.0175-SCALE MODEL 60-OTS IN AEDC TUNNEL A DURING TESTS IH41B |
| 2295                       | 151,071              | IH41B                    | RESULTS OF AN INVESTIGATION OF THE SPACE SHUTTLE INTEGRATED VEHICLE AERODYNAMIC HEATING CHARACTERISTICS OBTAINED USING THE O.0175-SCALE MODEL 60-OTS IN AEDC TUNNEL A DURING TESTS IH41B |
| 2295                       | 151,072              | IH41B                    | RESULTS OF AN INVESTIGATION OF THE SPACE SHUTTLE INTEGRATED VEHICLE AERODYNAMIC HEATING CHARACTERISTICS OBTAINED USING THE O.0175-SCALE MODEL 60-OTS IN AEDC TUNNEL A DURING TESTS IH41B |

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| 2295                       | 151.073              | V-05                     | RESULTS OF AN INVESTIGATION OF THE SPACE SHUTTLE INTEGRATED VEHICLE AERODYNAMIC HEATING CHARACTERISTICS OBTAINED USING THE O.0175-SCALE MODEL 60-07S IN AEDC TUNNEL A DURING TESTS IH41B               |
| 2296                       | 147.609              | V-01                     | SHUTTLE MODEL TAILCONE PRESSURE DISTRIBUTION AT LOW SUBSONIC SPEEDS OF A O.03614-SCALE MODEL IN THE NASA/LARC LOW TURBULENCE PRESSURE TUNNEL (LA81)  |
| 2296                       | 147.610              | V-02                     | SHUTTLE MODEL TAILCONE PRESSURE DISTRIBUTION AT LOW SUBSONIC SPEEDS OF A O.03614-SCALE MODEL IN THE NASA/LARC LOW TURBULENCE PRESSURE TUNNEL (LA81)  |
| 2297                       | 147.628              | LA45A/B                  | HIGH SUPERSONIC AERODYNAMIC CHARACTERISTICS OF FIVE IRREGULAR PLANFORM WINGS WITH SYSTEMATICALLY VARYING WING FILLET GEOMETRY TESTED IN THE NASA/LARC 4-FOOT UPWT (LEG 2) (LA45A/B)                    |
| 2298                       | 151.409              | LA73A/LA73B              | LOW SPEED STABILITY AND CONTROL CHARACTERISTICS OF A O.015 SCALE MODEL 69-D OF THE SPACE SHUTTLE ORBITER WITH FOREBODY RSI MODIFICATIONS IN THE NASA/LARC LOW TURBULENCE PRESSURE TUNNEL (LA73A/B)     |
| 2299                       | JM-X3497             | LA80                     | DYNAMIC STABILITY CHARACTERISTICS OF THE COMBINATION SPACE SHUTTLE ORBITER AND FERRY COMBINATION   |
| 2300                       | 147.629              | LA61B                    | LOW-SUBSONIC STABILITY AND CONTROL CHARACTERISTICS OF A O.015-SCALE REMOTELY CONTROLLED ELEVON MODEL (44-O) OF THE SPACE SHUTTLE ORBITER IN THE LANGLEY RESEARCH CENTER LOW TURBULENCE PRESSURE TUNNEL |
| 2301                       | 144.605              | OH54A                    | RESULTS OF PHASE CHANGE PAINT HEAT TRANSFER TESTS UTILIZING O.040 SCALE 50 PERCENT FOREBODY MODELS (NO. 82-O) OF THE ROCKWELL INTERNATIONAL SPACE SHUTTLE ORBITER IN AEDC VKF HYPERSONIC TUNNEL B      |
| 2302                       | 167.340              | OA174                    | RESULTS OF TESTS USING A O.36-SCALE MODEL(76-O) OF THE SPACE SHUTTLE ORBITER VEHICLE 101 IN THE NASA/AMES RESEARCH CENTER'S 40 X 80 SUBSONIC WIND TUNNEL (OA174)                                       |
| 2302                       | 167.341              | V-02                     | RESULTS OF TESTS USING A O.36-SCALE MODEL(76-O) OF THE SPACE SHUTTLE ORBITER VEHICLE 101 IN THE NASA/AMES RESEARCH CENTER'S 40 X 80 SUBSONIC WIND TUNNEL (OA174)                                       |
| 2303                       | 144.618              | OH75                     | RESULTS OF PHASE CHANGE PAINT TESTS OF O.040 SCALE 50 PERCENT FOREBODY MODELS (82-O) OF THE SPACE SHUTTLE ORBITER IN THE AEDC VKF 'B' HYPERSONIC WIND TUNNEL   |

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| 2304                       | 150,846              | 0A173                    | RESULTS OF TESTS TO EVALUATE ARC 40X80-FOOT TUNNEL SUPPORT STRUT TARES ON THE SPACE SHUTTLE VEHICLE WITH TAIL CONE USING A 0.03-SCALE MODEL (45-O) IN THE NASA/ARC 12-FOOT PRESSURE WIND TUNNEL (0A173)                                 |
| 2305                       | 151,059              | V-01 LA76                | HIGH REYNOLDS NUMBER TRANSONIC STABILITY AND CONTROL CHARACTERISTICS OF A 0.015 SCALE (REMOTELY CONTROLLED ELEVON) MODEL 44-O OF THE SPACE SHUTTLE ORBITER TESTED IN THE VSD HIGH SPEED TUNNEL (LA76)                                   |
| 2305                       | 151,060              | V-02 LA76                | HIGH REYNOLDS NUMBER TRANSONIC STABILITY AND CONTROL CHARACTERISTICS OF A 0.015 SCALE (REMOTELY CONTROLLED ELEVON) MODEL 44-O OF THE SPACE SHUTTLE ORBITER TESTED IN THE VSD HIGH SPEED TUNNEL (LA76)                                   |
| 2306                       | 167,354              | V-01 IA135A/B/C          | RESULTS OF TESTS ON THE SPACE SHUTTLE LAUNCH CONFIGURATION USING THE 0.03 SCALE MODEL 47-OTS IN THE NASA/AMES UNITARY PLAN WIND TUNNEL (IA135A/B/C)   |
| 2306                       | 167,355              | V-02 IA135A/B/C          | RESULTS OF TESTS ON THE SPACE SHUTTLE LAUNCH CONFIGURATION USING THE 0.03 SCALE MODEL 47-OTS IN THE NASA/AMES UNITARY PLAN WIND TUNNEL (IA135A/B/C)   |
| 2306                       | 167,356              | V-03 IA135A/B/C          | RESULTS OF TESTS ON THE SPACE SHUTTLE LAUNCH CONFIGURATION USING THE 0.03 SCALE MODEL 47-OTS IN THE NASA/AMES UNITARY PLAN WIND TUNNEL (IA135A/B/C)   |
| 2307                       | 160,840              | V-01 CA14A               | RESULTS OF EXPERIMENTAL AERODYNAMIC INVESTIGATION ON A 0.03 SCALE MODEL BOEING 747 CAM WITH SPACE SHUTTLE ORBITER IN THE BOEING 8X12 FOOT TRANSONIC WIND TUNNEL (CA14A)   |
| 2307                       | 160,841              | V-02 CA14A               | RESULTS OF EXPERIMENTAL AERODYNAMIC INVESTIGATION ON A 0.03 SCALE MODEL BOEING 747 CAM WITH SPACE SHUTTLE ORBITER IN THE BOEING 8X12 FOOT TRANSONIC WIND TUNNEL (CA14A)   |
| 2308                       | 147,636              | IH5                      | AN EXPERIMENTAL DETERMINATION IN THE CALSPAN LUDWIG TUBE OF THE BASE ENVIRONMENT OF THE INTEGRATED SPACE SHUTTLE VEHICLE AT SIMULATED MACH 4.5 FLIGHT CONDITIONS (TEST IH5 OF MODEL 19-OTS)   |
| 2309                       | 147,644              | LA72                     | TRANSONIC STABILITY AND CONTROL CHARACTERISTICS OF A 0.015 SCALE MODEL 69-O OF THE SPACE SHUTTLE ORBITER WITH FOREBODY RSI MODIFICATION IN THE NASA/LARC 8-FOOT TPT (LA72)  |
| 2310                       | 151,083              | V-01 SA14FB              | REENTRY STATIC STABILITY CHARACTERISTICS OF A 0.0054B SCALE MODEL OF A RIGHT HAND 146-INCH DIAMETER SOLID ROCKET BOOSTER (MSFC MODEL 486) REENTRY CONFIGURATION AS DETERMINED FROM TESTS IN THE NASA/MSFC 14-INCH TRANSONIC WIND TUNNEL |

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|----------------------------|----------------------|--------------------------|---|
| 2310                       | 151,084              | V-02                     | SA14FB<br><br>REENTRY STATIC STABILITY CHARACTERISTICS OF A 0.00548 SCALE MODEL OF A RIGHT HAND 146-INCH DIAMETER SOLID ROCKET BOOSTER (MSFC MODEL 486) REENTRY CONFIGURATION AS DETERMINED FROM TESTS IN THE NASA/MSFC 14-INCH TRANSONIC WIND TUNNEL |
| 2311                       | 147,620              | LA78/LA87/LA88           | RESULTS FROM INVESTIGATIONS IN THREE NASA/LARC HYPERSONIC WIND TUNNELS ON A 0.004-SCALE MODEL SPACE SHUTTLE ORBITER (MODEL 13P-O) TO DETERMINE REAL GAS EFFECTS (LA78, LA87, LA88)  |
| 2312                       | 151,075              | V-01                     | IH47<br><br>RESULTS OF AN INVESTIGATION OF THE SPACE SHUTTLE SOLID ROCKET BOOSTER AERODYNAMIC HEATING CHARACTERISTICS OBTAINED USING THE 0.0175-SCALE MODEL 60-OTS IN AEDC TUNNEL A DURING TESTS IH47   |
| 2312                       | 151,076              | V-02                     | IH47<br><br>RESULTS OF AN INVESTIGATION OF THE SPACE SHUTTLE SOLID ROCKET BOOSTER AERODYNAMIC HEATING CHARACTERISTICS OBTAINED USING THE 0.0175-SCALE MODEL 60-OTS IN AEDC TUNNEL A DURING TESTS IH47   |
| 2313                       | 151,041              | V-01                     | FH14<br><br>RESULTS OF WIND TUNNEL TESTS TO DETERMINE HEAT TRANSFER RATES ON A .0275 SCALE SPACE SHUTTLE EXTERNAL TANK WITH A 10 DEG/40 DEG DOUBLE CONE-OGIVE NOSE IN THE NASA/ARC 3.5 HYPERSONIC TUNNEL  |
| 2313                       | 151,042              | V-02                     | FH14<br><br>RESULTS OF WIND TUNNEL TESTS TO DETERMINE HEAT TRANSFER RATES ON A .0275 SCALE SPACE SHUTTLE EXTERNAL TANK WITH A 10 DEG/40 DEG DOUBLE CONE-OGIVE NOSE IN THE NASA/ARC 3.5 HYPERSONIC TUNNEL  |
| 2313                       | 151,043              | V-03                     | FH14<br><br>RESULTS OF WIND TUNNEL TESTS TO DETERMINE HEAT TRANSFER RATES ON A .0275 SCALE SPACE SHUTTLE EXTERNAL TANK WITH A 10 DEG/40 DEG DOUBLE CONE-OGIVE NOSE IN THE NASA/ARC 3.5 HYPERSONIC TUNNEL  |
| 2314                       | 151,406              | OA176                    | INVESTIGATION OF SUPPORT SYSTEM EFFECTS ON ORBITER LOW SPEED AERODYNAMIC CHARACTERISTICS USING 0.0405-SCALE MODEL 43-O IN THE NAAL LOW SPEED WIND TUNNEL  |
| 2315                       | 147,623              | IA141                    | RESULTS OF AN INVESTIGATION OF REYNOLDS NUMBER EFFECTS ON INTEGRATED VEHICLE ELEVON HINGE MOMENTS AND WING PANEL LOADS OBTAINED WITH 0.010-SCALE MODEL 72-OTS IN THE ROCKWELL TRANSONIC WIND TUNNEL   |
| 2316                       | 147,622              | IA137                    | RESULTS OF TEST IA137 IN THE NASA/ARC 14 FOOT TRANSONIC WIND TUNNEL OF THE 0.07 SCALE EXTERNAL TANK FOREBODY (MODEL 68-T) TO DETERMINE AUXILIARY AERODYNAMIC DATA SYSTEM FEASIBILITY  |

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|----------------------------|----------------------|--------------------------|---|
| 2317                       | 151,787              | DH53A                    | RESULTS OF TESTS TO DETERMINE REACTION CONTROL SYSTEM (RCS) NOZZLE EFFECTS ON THE ORBITER FOREBODY ASCENT AERODYNAMIC HEATING RATES USING A 0.04-SCALE MODEL (83-O) IN THE AMES RESEARCH CENTER 3.5 FOOT HYPERSONIC WIND TUNNEL (DH53A) |
| 2318                       | 147,646              | V-01 LA75                | HIGH SUPERSONIC STABILITY AND CONTROL CHARACTERISTICS OF A 0.015-SCALE (REMOTELY CONTROLLED ELEVON) MODEL 44-O SPACE SHUTTLE ORBITER TESTED IN THE NASA/LARC 4-FOOT UPWT (LEG 2) (LA75)   |
| 2318                       | 147,647              | V-02 LA75                | HIGH SUPERSONIC STABILITY AND CONTROL CHARACTERISTICS OF A 0.015-SCALE (REMOTELY CONTROLLED ELEVON) MODEL 44-O SPACE SHUTTLE ORBITER TESTED IN THE NASA/LARC 4-FOOT UPWT (LEG 2) (LA75)   |
| 2319                       | 151,771              | IA43                     | HEAT TRANSFER AND PRESSURE TESTS ON A 0.01-SCALE SPACE SHUTTLE MODEL (59-OT) IN THE CALSPAN HYPERVELOCITY SHOCK TUNNELS (IA43)  |
| 2320                       | 151,390              | V-01 OA169               | RESULTS OF TESTS USING A 0.0125-SCALE MODEL(70-OT)OF THE SPACE SHUTTLE VEHICLE ORBITER IN THE AEDC VKF TUNNEL B (OA169)   |
| 2320                       | 151,391              | V-02 OA169               | RESULTS OF TESTS USING A 0.0125-SCALE MODEL(70-OT)OF THE SPACE SHUTTLE VEHICLE ORBITER IN THE AEDC VKF TUNNEL B (OA169)   |
| 2320                       | 151,392              | V-03 OA169               | RESULTS OF TESTS USING A 0.0125-SCALE MODEL(70-OT)OF THE SPACE SHUTTLE VEHICLE ORBITER IN THE AEDC VKF TUNNEL B (OA169)   |
| 2321                       | 151,410              | V-01 OH69                | RESULTS OF TEST OH69 OBTAINED IN THE AEDC VKF HYPERSONIC TUNNEL B USING THE INFRARED SCANNING METHOD TO OBTAIN HEAT TRANSFER DATA ON THE 0.040 SCALE MODEL 82-O OF THE SPACE SHUTTLE FOREBODY   |
| 2321                       | 151,411              | V-02 OH69                | RESULTS OF TEST OH69 OBTAINED IN THE AEDC VKF HYPERSONIC TUNNEL B USING THE INFRARED SCANNING METHOD TO OBTAIN HEAT TRANSFER DATA ON THE 0.040 SCALE MODEL 82-O OF THE SPACE SHUTTLE FOREBODY   |
| 2322                       | 160,847              | OA228                    | RESULTS OF TEST OA228 USING THE SSV VEHICLE 102 0.10 SCALE FOREBODY MODEL NO. 57-O IN THE NAAL LOW SPEED WIND TUNNEL  |
| 2323                       | 151,039              | IA94A                    | RESULTS OF INVESTIGATIONS CONDUCTED IN THE LARC 4-FOOT UNITARY PLAN WIND TUNNEL LEG NO. 1 USING THE 0.010-SCALE 72-OTS MODEL OF THE SPACE SHUTTLE INTEGRATED VEHICLE  |
| 2324                       | 151,040              | IA94B                    | RESULTS OF INVESTIGATIONS CONDUCTED IN THE LARC 4-FOOT UNITARY PLAN WIND TUNNEL LEG NO. 2 USING THE 0.010-SCALE 72-OTS MODEL OF THE SPACE SHUTTLE INTEGRATED VEHICLE  |

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|----------------------------|----------------------|--------------------------|--|
| 2325                       | 147,645              | SA14FA                   | AERODYNAMIC CHARACTERISTICS OF A 0.00563 SCALE 142-INCH DIAMETER SOLID ROCKET BOOSTER (MSFC MODEL 449 AND 480) WITH SIDE MOUNTED STINGS IN THE NASA/MSFC 14 INCH TRANSONIC WIND TUNNEL |
| 2326                       | 151,037              | IA93                     | RESULTS OF INVESTIGATIONS CONDUCTED IN THE LARC 8-FOOT TRANSONIC PRESSURE TUNNEL USING THE 0.010-SCALE 72-OTS MODEL OF THE SPACE SHUTTLE INTEGRATED VEHICLE                            |
| 2326                       | 151,038              | IA93                     | RESULTS OF INVESTIGATIONS CONDUCTED IN THE LARC 8-FOOT TRANSONIC PRESSURE TUNNEL USING THE 0.010-SCALE 72-OTS MODEL OF THE SPACE SHUTTLE INTEGRATED VEHICLE                            |
| 2327                       | 151,079              | IA22                     | RESULTS OF TESTS USING 0.0125-SCALE MODEL (70-OT) OF THE SPACE SHUTTLE VEHICLE ORBITER IN THE AEDC VKF TUNNEL B  |
| 2327                       | 151,080              | IA22                     | RESULTS OF TESTS USING 0.0125-SCALE MODEL (70-OT) OF THE SPACE SHUTTLE VEHICLE ORBITER IN THE AEDC VKF TUNNEL B  |
| 2327                       | 151,081              | IA22                     | RESULTS OF TESTS USING 0.0125-SCALE MODEL (70-OT) OF THE SPACE SHUTTLE VEHICLE ORBITER IN THE AEDC VKF TUNNEL B  |
| 2328                       | TN D-8233            | LA34                     | EFFECT OF A SURFACE-TO-GAP TEMPERATURE DISCONTINUITY ON THE HEAT TRANSFER TO REUSABLE SURFACE INSULATION TILE GAPS   |
| 2329                       | 160,837              | DA224                    | CALIBRATION RESULTS OF THE BASELINE AIR DATA PROBES AT THE LANGLEY 16-FOOT TRANSONIC WIND TUNNEL USING A 0.10 SCALE ORBITER FOREBODY MODEL 102 LINES (DA224)                           |
| 2330                       | 147,637              | OH52                     | RESULTS OF A FLOW FIELD SURVEY CONDUCTED USING THE 0.0175 SCALE ORBITER MODEL 29-0 IN THE AEDC VKF TUNNEL B DURING TEST OH52   |
| 2331                       | 160,838              | SA11F                    | STATIC STABILITY AND PRESSURE DATA FROM WIND TUNNEL TESTS OF A .028-SCALE (MSFC MODEL 483) SPACE SHUTTLE SRB AT REENTRY ATTITUDES IN THENASA/ARC UNITARY PLAN WIND TUNNELS (SA11F)     |
| 2331                       | 160,839              | SA11F                    | STATIC STABILITY AND PRESSURE DATA FROM WIND TUNNEL TESTS OF A .028-SCALE (MSFC MODEL 483) SPACE SHUTTLE SRB AT REENTRY ATTITUDES IN THENASA/ARC UNITARY PLAN WIND TUNNELS (SA11F)     |
| 2332                       | 151,373              | CA13                     | RESULTS OF AERODYNAMIC FORCE AND MOMENT TESTS OF 0.03-SCALE MODELS (AX13191-3 AND 45-0) OF THE SPACE SHUTTLE ORBITER AND CARRIER IN THE NASA/ARC 14-FOOT TRANSONIC WIND TUNNEL (CA13)  |

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| 2333                       | 151,374              | OA175                    | WIND TUNNEL TEST OA175 OF THE O.030-SCALE SSV ORBITER MODEL (47-O) IN THE 11 X 11-FOOT LEG OF THE NASA/ARC UNITARY PLAN WIND TUNNEL (OA175)   |
| 2333                       | 151,375              | OA175                    | WIND TUNNEL TEST OA175 OF THE O.030-SCALE SSV ORBITER MODEL (47-O) IN THE 11 X 11-FOOT LEG OF THE NASA/ARC UNITARY PLAN WIND TUNNEL (OA175)   |
| 2333                       | 151,376              | OA175                    | WIND TUNNEL TEST OA175 OF THE O.030-SCALE SSV ORBITER MODEL (47-O) IN THE 11 X 11-FOOT LEG OF THE NASA/ARC UNITARY PLAN WIND TUNNEL (OA175)   |
| 2334                       | 147,648              | SA16F                    | AN INVESTIGATION OF THE AERODYNAMIC CHARACTERISTICS OF A O.00548 SCALE MODEL (MODEL NO. 486) OF THE SPACE SHUTTLE 146-INCH DIAMETER SOLID ROCKET BOOSTER AT ANGLES OF ATTACK FROM 113 TO 180 DEGREES IN THE AEDC PWT 4-FOOT TRANSONIC WIND TUNNEL |
| 2335                       | 151,783              | 1A140A/B                 | RESULTS OF EXPERIMENTAL INVESTIGATIONS IN THE MSFC TWT TO DETERMINE EFFECTS OF A MULTIPLE STRING SUPPORT SYSTEM ON THE MATED VEHICLE AERODYNAMICS UTILIZING A O.004 SCALE (74-OTS, 77-O) SHUTTLE VEHICLE 5 (1A140 A/B)                            |
| 2336                       | 167,375              | LA145                    | INVESTIGATION OF THE HIGH ANGLE OF ATTACK AERODYNAMICS OF A SPACE SHUTTLE ORBITER(LARC .0098 SCALE MODEL) IN THE LARC UPWT AT MACH NUMBERS FROM 1.5 TO 4.5(LA145)   |
| 2337                       | 151,786              | OA236                    | A VERIFICATION STUDY OF THREE AMES RESEARCH CENTER PITOT-STATIC PROBES IN THE ROCKWELL INTERNATIONAL NAAL LOW SPEED WIND TUNNEL   |
| 2338                       | 147,639              | CS3                      | RESULTS OF THE LOW SPEED AEROELASTIC BUFFET TEST WITH A O.046-SCALE MODEL (747-AX1322D-3/ORBITER 8-O) OF THE 747 CAM/ORBITER IN THE UNIVERSITY OF WASHINGTON WIND TUNNEL  |
| 2339                       |                      | OS32                     | ** DOCUMENTATION NOT COMPLETE **  |
| 2340                       | 160,501              | OH98                     | RESULTS OF TESTS ON A O.0175-SCALE MODEL (60-O) OF THE SPACE SHUTTLE ORBITER TO DETERMINE RE-ENTRY MODE CONVECTIVE HEAT TRANSFER RATES ON THE UPPER WING SURFACE AND SSME NOZZLES IN THE AEDC VKF 'B' HYPERSONIC WIND TUNNEL (OH98)               |
| 2340                       | 160,502              | OH98                     | RESULTS OF TESTS ON A O.0175-SCALE MODEL (60-O) OF THE SPACE SHUTTLE ORBITER TO DETERMINE RE-ENTRY MODE CONVECTIVE HEAT TRANSFER RATES ON THE UPPER WING SURFACE AND SSME NOZZLES IN THE AEDC VKF 'B' HYPERSONIC WIND TUNNEL (OH98)               |
| 2341                       | 147,638              | CS4/5                    | RESULTS OF TESTS CS4 AND CS5 TO INVESTIGATE DYNAMIC LOADS AND PRESSURES ON O.03-SCALE MODELS (AX1319-3/4 AND 45-O) OF MATED 747 CAM AND SPACE SHUTTLE ORBITER IN THE BOEING TRANSONIC WIND TUNNEL   |

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| 2342                       | 151,074              | OH54B                    | RESULTS OF PHASE CHANGE PAINT HEAT TRANSFER TEST UTILIZING O.040 SCALE 50 PERCENT FOREBODY MODELS (NO. 82-O) OF THE ROCKWELL INTERNATIONAL SPACE SHUTTLE ORBITER IN THE AEDC VKF HYPERSONIC TUNNEL B                      |
| 2343                       | 160,849              | LA85                     | PITOT PRESSURE SURVEYS ON THE LEeward SURFACE OF A O.0045-SCALE MODEL ATP SHUTTLE ORBITER AT 30 DEGREES ANGLE OF ATTACK AND MACH 20 IN THE LARC 22 INCH HELIUM TUNNEL(LA85)   |
| 2344                       | 151,788              | LA77                     | TRANSONIC STABILITY AND CONTROL CHARACTERISTICS OF A O.015-SCALE (REMOTELY CONTROLLED ELEVON) MODEL 44-O OF THE SPACE SHUTTLE ORBITER TESTED IN THE NASA/ARC 11-FOOT TRANSONIC WIND TUNNEL (LA77)                         |
| 2344                       | 151,789              | LA77                     | TRANSONIC STABILITY AND CONTROL CHARACTERISTICS OF A O.015-SCALE (REMOTELY CONTROLLED ELEVON) MODEL 44-O OF THE SPACE SHUTTLE ORBITER TESTED IN THE NASA/ARC 11-FOOT TRANSONIC WIND TUNNEL (LA77)                         |
| 2345                       | 78195                | SA21F                    | AERODYNAMIC ROLL CHARACTERISTICS OF A O.00548 SCALE 146-INCH SOLID ROCKET BOOSTER REENTRY CONFIGURATION (MSFC MODEL NUMBER 486) OVER A PORTION OF THE REENTRY FLIGHT REGIME IN THE NASA/MSFC 14-INCH TRISONIC WIND TUNNEL |
| 2346                       | 151,385              | IA142                    | RESULTS OF SRB SEPARATION TESTS USING THE O.010-SCALE SSV MODEL 75-OTS IN THE AEDC VKF TUNNEL A   |
| 2346                       | 151,386              | IA142                    | RESULTS OF SRB SEPARATION TESTS USING THE O.010-SCALE SSV MODEL 75-OTS IN THE AEDC VKF TUNNEL A   |
| 2346                       | 151,387              | IA142                    | RESULTS OF SRB SEPARATION TESTS USING THE O.010-SCALE SSV MODEL 75-OTS IN THE AEDC VKF TUNNEL A   |
| 2347                       | 160,482              | CA15A                    | MATED AERODYNAMIC CHARACTERISTICS INVESTIGATION FOR O.04-SCALE MODEL BOEING 747 CAM/ORBITER (MODEL AX1284 E-6) COMBINATION IN THE UNIVERSITY OF WASHINGTON AERONAUTICAL LABORATORY F. K. KIRSTEN WIND TUNNEL (CA15A)      |
| 2348                       | 160,483              | CA15B                    | MATED AERODYNAMIC CHARACTERISTICS INVESTIGATION FOR O.04-SCALE MODEL BOEING 747 CAM/ORBITER (MODEL AX1284 E-7) COMBINATION IN THE UNIVERSITY OF WASHINGTON AERONAUTICAL LABORATORY F. K. KIRSTEN WIND TUNNEL (CA15B)      |
| 2349                       | 151,379              | CA17                     | RESULTS OF TEST CA17 CONDUCTED IN THE UVAL LOW SPEED WIND TUNNEL USING THE MATED O.04-SCALE 747 MODEL AX1284 AND O.0405 SPACE SHUTTLE ORBITER MODEL 43-O  |
| 2350                       | 151,065              | OH46                     | RESULTS OF PHASE CHANGE PAINT THERMAL MAPPING TEST OH46 USING THE O.006-SCALE MODEL 90-O IN THE NASA LARC VARIABLE DENSITY TUNNEL   |

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| 2351                       | 160,853              | 0A238                    | RESULTS OF TEST 0A238 USING THE SSV VEHICLE 102 O.10-SCALE FOREBODY MODEL NO. 99-O IN THE NAAL LOW SPEED WIND TUNNEL TO INVESTIGATE AIR DATA SYSTEM CHARACTERISTICS                   |
| 2352                       | 151,383              | LA91                     | A STUDY OF TRANSONIC BETA HYSTERESIS OF AN O.015 SCALE MODEL 44-O (SPACE SHUTTLE ORBITER TESTED IN THE NASA/LARC 8-FOOT TRANSONIC) PRESSURE TUNNEL (LA91)                             |
| 2353                       | 160,827              | LA89                     | SUBSONIC STABILITY AND CONTROL CHARACTERISTICS OF A O.030-SCALE SPACE SHUTTLE ORBITER WITH TAILCONE (MODEL 201) TESTED IN THE NASA/ARC 11-FOOT TRANSONIC WIND TUNNEL (LA89)           |
| 2354                       | 151,401              | IA143                    | RESULTS OF SRB SEPARATION TESTS USING THE O.010 SCALE SSV MODEL 75-DTS IN THE AEDC VKF TUNNEL A (IA143)   |
| 2354                       | 151,402              | IA143                    | RESULTS OF SRB SEPARATION TESTS USING THE O.010 SCALE SSV MODEL 75-DTS IN THE AEDC VKF TUNNEL A (IA143)   |
| 2354                       | 151,403              | IA143                    | RESULTS OF SRB SEPARATION TESTS USING THE O.010 SCALE SSV MODEL 75-DTS IN THE AEDC VKF TUNNEL A (IA143)   |
| 2354                       | 151,404              | IA143                    | RESULTS OF SRB SEPARATION TESTS USING THE O.010 SCALE SSV MODEL 75-DTS IN THE AEDC VKF TUNNEL A (IA143)   |
| 2355                       | 151,066              | OH49A                    | RESULTS OF TEST OH49A OF THE .0175-SCALE SPACE SHUTTLE ORBITER MODEL22-O CONDUCTED IN THE AEDC VKF TUNNEL B TO DETERMINE AERO HEATING CHARACTERISTICS                                 |
| 2356                       | 151,064              | OH60                     | AERODYNAMIC HEATING RESULTS OBTAINED DURING TEST OH60 CONDUCTED IN THE AEDC VKF TUNNEL B USING THE O.040-SCALE MODEL 83-O OF THE SPACE SHUTTLE ORBITER FORWARD FIFTY PERCENT FUSELAGE |
| 2357                       | 167,655              | 1H68                     | RESULTS OF ASCENT AERODYNAMIC HEATING TESTS ON THE SPACE SHUTTLE ASCENT VEHICLE, AT MACH 5.3 AND 7.4 IN THE NASA/AMES 3.5-FOOT HWT, USING THE O.0175-SCALE MODEL 60 OTS (1H68)        |
| 2358                       | 151,067              | OH50B                    | AERODYNAMIC HEATING RESULTS OBTAINED DURING TEST OH50B CONDUCTED IN THE AEDC VKF TUNNEL B USING THE O.040-SCALE 83-O OF THE SPACE SHUTTLE ORBITER FORWARD FIFTY PERCENT FUSELAGE      |
| 2359                       | 151,405              | OH66                     | RESULTS OF HEAT TRANSFER TESTING OF AN O.025-SCALE MODEL (66-O) OF THE SPACE SHUTTLE ORBITER CONFIGURATION 140B IN THE CALSPAN HYPER-SONIC SHOCK TUNNEL (OH66)                        |

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| 2360                       | CO. 521              | V-01                     | 0A221B/C   |
| 2360                       | 160.522              | V-02                     | 0A221B/C   |
| 2361                       | 151.370              | V-01                     | 0A163B   |
| 2362                       | 151.371              | V-02                     | 0A163B   |
| 2363                       | 151.057              |                          | LA92   |
| 2364                       | 160.527              | V-01                     | 0A145B   |
| 2364                       | 160.528              | V-02                     | 0A145B   |
| 2364                       | 160.529              | V-03                     | 0A145B   |
| 2365                       | 151.056              |                          | 056  |
| 2366                       | 151.063              |                          | 0H25B  |

CALIBRATION TESTS OF THE SPACE SHUTTLE ORBITER PRIMARY AND ALTERNATE AIR DATA SYSTEMS USING A 0.10-SCALE ORBITER FOREBODY MODEL (99-0) IN THE NASA AMES RESEARCH CENTER 9 X 7 AND 8 X 7-FOOT LEGS OF THE UNITARY PLAN WIND TUNNEL (0A221B AND C )

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RESULTS OF A LANDING GEAR LOADS TEST USING A 0.0405-SCALE MODEL (15-0) OF THE SPACE SHUTTLE ORBITER IN THE ROCKWELL INTERNATIONAL NAAL WIND TUNNEL (0A163B)

RESULTS OF A LANDING GEAR LOADS TEST USING A 0.0405-SCALE MODEL (15-0) OF THE SPACE SHUTTLE ORBITER IN THE ROCKWELL INTERNATIONAL NAAL WIND TUNNEL (0A163B)

\*\* DOCUMENTATION NOT COMPLETE \*\*

RESULTS OF FLUTTER TEST 057 OBTAINED USING THE 0.14-SCALE SPACE SHUTTLE ORBITER FIN/RUDDER MODEL NUMBER 55-0 IN THE NASA LARC 16-FOOT TRANSONIC DYNAMICS WIND TUNNEL

RESULTS OF AN INVESTIGATION TO VERIFY SHUTTLE ORBITER VEHICLE 102 AERO CHARACTERISTICS UTILIZING AN .05-SCALE HI-FIDELITY REMOTE CONTROL MODEL (39-0) IN THE AMES RESEARCH CENTER UNITARY WIND TUNNEL(0A145B)

RESULTS OF AN INVESTIGATION TO VERIFY SHUTTLE ORBITER VEHICLE 102 AERO CHARACTERISTICS UTILIZING AN .05-SCALE HI-FIDELITY REMOTE CONTROL MODEL (39-0) IN THE AMES RESEARCH CENTER UNITARY WIND TUNNEL(0A145B)

RESULTS OF AN INVESTIGATION TO VERIFY SHUTTLE ORBITER VEHICLE 102 AERO CHARACTERISTICS UTILIZING AN .05-SCALE HI-FIDELITY REMOTE CONTROL MODEL (39-0) IN THE AMES RESEARCH CENTER UNITARY WIND TUNNEL(0A145B)

RESULTS OF FLUTTER TEST 056 OBTAINED USING THE 0.14-SCALE WING/ELEVON MODEL (54-0) IN THE NASA LARC 16-FOOT TRANSONIC DYNAMICS WIND TUNNEL

HEAT TRANSFER PHASE CHANGE PAINT TESTS OF 0.0175-SCALE MODEL (ND. 56-0) OF THE ROCKWELL INTERNATIONAL SPACE SHUTTLE ORBITER IN THE AEDC TUNNEL B HYPERSONIC WIND TUNNEL

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|----------------------------|----------------------|--------------------------|--|
| 2367                       | 151,773              | OH57A/B                  | RESULTS OF A HIGH ANGLE-OF-ATTACK AERO HEATING PRESSURE TEST ON A 0.0175-SCALE MODEL (92-0) OF THE OV-102 CONFIGURATION SPACE SHUTTLE ORBITER IN THE AEDC VKF TUNNEL B (OH57A/B)   |
| 2368                       | 151,058              | OH51                     | RESULTS OF PHASE CHANGE HEAT TRANSFER TEST OH51 USING 0.006-SCALE SPACE SHUTTLE ORBITER MODELS 46-0 AND 90-0 AND PARTIAL WING 0.0175-SCALE MODEL 64-D IN THE LARC 31-INCH CPHT   |
| 2369                       | 167,345              | SA31F                    | AN AERODYNAMIC STATIC STABILITY WIND TUNNEL TEST OF A 0.00856 SCALE MODEL OF THE SPACE SHUTTLE 146 INCH DIAMETER SOLID ROCKET BOOSTER REENTRY CONFIGURATION (MSFC MODEL 487) IN THE NASA/MSFC HIGH REYNOLDS NUMBER WIND TUNNEL |
| 2370                       | 151,790              | OA149B/C                 | RESULTS OF TEST USING A 0.030-SCALE PRESSURE LOADS SPACE SHUTTLE ORBITER MODEL (47-0) IN THE NASA/ARC UNITARY PLAN WIND TUNNEL   |
| 2370                       | 151,791              | OA149B/C                 | RESULTS OF TEST USING A 0.030-SCALE PRESSURE LOADS SPACE SHUTTLE ORBITER MODEL (47-0) IN THE NASA/ARC UNITARY PLAN WIND TUNNEL   |
| 2370                       | 151,792              | OA149B/C                 | RESULTS OF TEST USING A 0.030-SCALE PRESSURE LOADS SPACE SHUTTLE ORBITER MODEL (47-0) IN THE NASA/ARC UNITARY PLAN WIND TUNNEL   |
| 2371                       | 151,408              | OH78                     | RESULTS OF PHASE HEATING TESTS ON A 0.04 SCALE SPACE SHUTTLE ORBITER BASE (MODEL 65-0) IN THE NASA/JSC THERMAL VACUUM CHAMBER A  |
| 2372                       | 160,843              | IH72                     | RESULTS OF HEAT TRANSFER TESTS OF A 0.0175-SCALE SPACE SHUTTLE INTEGRATED VEHICLE MODEL 60-0TS IN THE AEDC-VKF TUNNEL A (IH72)   |
| 2373                       | 160,821              | LA99                     | EFFECT OF TAILCONE CUT-OFF AND STING CONFIGURATION ON THE AERODYNAMIC CHARACTERISTICS OF A 0.030 SCALE(REMOTELY CONTROLLED ELEVON, BODYFLAP AND RUDDER) MODEL 201-0 ALT ORBITER TESTED IN THE NASA/LARC 8-FOOT TPT (LA99)      |
| 2374                       | 167,372              | LA82/LA103               | INVESTIGATIONS IN THE CALSPAN 8-FOOT TRANSONIC WIND TUNNEL TO DETERMINE STING-TARE EFFECTS ON A MODIFIED 0.0165-SCALE SPACE SHUTTLE ORBITER MODEL WITH A TAILCONE (LA82/LA103)   |
| 2375                       | 160,530              | OA237                    | RESULTS OF AIR DATA SYSTEM CALIBRATION TEST USING THE 0.10-SCALE SPACE SHUTTLE ORBITER VEHICLE 102 FOREBODY MODEL 99-0 IN THE NASA 40 X 80-FOOT SUBSONIC WIND TUNNEL (OA237)   |
| 2376                       | 151,779              | V-01                     | RESULTS OF TEST USING A 0.030-SCALE PRESSURE LOADS SPACE SHUTTLE ORBITER MODEL (47-0) IN THE NASA/ARC UNITARY PLAN WIND TUNNEL   |

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|----------------------------|----------------------|--------------------------|--|
| 2376                       | 151,780              | OA149A                   | RESULTS OF TEST USING A 0.030-SCALE PRESSURE LOADS SPACE SHUTTLE ORBITER MODEL (47-0) IN THE NASA/ARC UNITARY PLAN WIND TUNNEL   |
| 2376                       | 151,781              | OA149A                   | RESULTS OF TEST USING A 0.030-SCALE PRESSURE LOADS SPACE SHUTTLE ORBITER MODEL (47-0) IN THE NASA/ARC UNITARY PLAN WIND TUNNEL   |
| 2377                       | 167,342              | IA144                    | RESULTS OF TESTS OF THE 0.010 SCALE SPACE SHUTTLE INTEGRATED VEHICLE IN THE NASA/AMES RESEARCH CENTER 11X11 FOOT TRANSONIC WIND TUNNEL, MODEL 72-OTS TEST IA144  |
| 2377                       | 167,343              | IA144                    | RESULTS OF TESTS OF THE 0.010 SCALE SPACE SHUTTLE INTEGRATED VEHICLE IN THE NASA/AMES RESEARCH CENTER 11X11 FOOT TRANSONIC WIND TUNNEL, MODEL 72-OTS TEST IA144  |
| 2378                       | 160,820              | IA191                    | RESULTS OF AN INVESTIGATION OF STATIC AND DYNAMIC PRESSURE DISTRIBUTIONS ON EXTERNAL TANK PROTRUBANCES IN THE 11-FOOT LEG OF THE NASA/ARC UNITARY PLAN WIND TUNNEL (IA191)                                   |
| 2379                       |                      | LA106                    | ** DOCUMENTATION NOT COMPLETE **   |
| 2380                       | 151,801              | OA145A                   | RESULTS OF AN INVESTIGATION TO VERIFY SHUTTLE ORBITER VEHICLE 102 AERO CHARACTERISTICS UTILIZING AN .05-SCALE HI-FIDELITY REMOTE CONTROL MODEL (39-0) IN THE AMES RESEARCH CENTER UNITARY WIND TUNNEL(OA145A |
| 2380                       | 151,802              | OA145A                   | RESULTS OF AN INVESTIGATION TO VERIFY SHUTTLE ORBITER VEHICLE 102 AERO CHARACTERISTICS UTILIZING AN .05-SCALE HI-FIDELITY REMOTE CONTROL MODEL (39-0) IN THE AMES RESEARCH CENTER UNITARY WIND TUNNEL(OA145A |
| 2380                       | 151,803              | OA145A                   | RESULTS OF AN INVESTIGATION TO VERIFY SHUTTLE ORBITER VEHICLE 102 AERO CHARACTERISTICS UTILIZING AN .05-SCALE HI-FIDELITY REMOTE CONTROL MODEL (39-0) IN THE AMES RESEARCH CENTER UNITARY WIND TUNNEL(OA145A |
| 2380                       | 151,804              | OA145A                   | RESULTS OF AN INVESTIGATION TO VERIFY SHUTTLE ORBITER VEHICLE 102 AERO CHARACTERISTICS UTILIZING AN .05-SCALE HI-FIDELITY REMOTE CONTROL MODEL (39-0) IN THE AMES RESEARCH CENTER UNITARY WIND TUNNEL(OA145A |
| 2380                       | 151,805              | OA145A                   | RESULTS OF AN INVESTIGATION TO VERIFY SHUTTLE ORBITER VEHICLE 102 AERO CHARACTERISTICS UTILIZING AN .05-SCALE HI-FIDELITY REMOTE CONTROL MODEL (39-0) IN THE AMES RESEARCH CENTER UNITARY WIND TUNNEL(OA145A |

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|----------------------------|----------------------|--------------------------|---|
| 2380                       | 151,806              | OA145A                   | RESULTS OF AN INVESTIGATION TO VERIFY SHUTTLE ORBITER VEHICLE 102 AERO CHARACTERISTICS UTILIZING AN .05-SCALE HI-FIDELITY REMOTE CONTROL MODEL (39-O) IN THE AMES RESEARCH CENTER UNITARY WIND TUNNEL(OA145A) |
| 2381                       |                      | LA107                    |   |
| 2382                       | 151,382              | OH8/IA109                | RESULTS OF EXPERIMENTAL TESTS IN THE NASA/MSFC IMPULSE BASE FLOW FACILITY ON A SPACE SHUTTLE .04 SCALE ORBITER (MODEL 25-O) TO DETERMINE SECOND STAGE ASCENT BASE HEATING RATES AND PRESSURE DISTRIBUTION     |
| 2383                       |                      | LA93                     | ** DOCUMENTATION NOT COMPLETE **  |
| 2384                       | 151,412              | IA148                    | RESULTS OF RCS JET PLUME INTERACTION TESTS USING A O-0125-SCALE MODEL (70-01) OF THE SPACE SHUTTLE VEHICLE ORBITER IN THE AEDC VKF TUNNEL 78% (IA148)   |
| 2384                       | 151,413              | IA148                    | RESULTS OF RCS JET PLUME INTERACTION TESTS USING A O-0125-SCALE MODEL (70-01) OF THE SPACE SHUTTLE VEHICLE ORBITER IN THE AEDC VKF TUNNEL 78% (IA148)   |
| 2385                       | 151,366              | OH15                     | RESULTS OF TESTS ON A O-111-SCALE SPACE SHUTTLE VEHICLE SIMULATED ELEVON/WING GAP HEAT TRANSFER MODEL (53-O) IN THE AMES RESEARCH CENTER 3.5-FOOT HWT   |
| 2386                       | 151,368              | OH44                     | RESULTS OF TESTS ON A O-111-SCALE SPACE SHUTTLE VEHICLE SIMULATED ELEVON/ELEVON GAP HEAT TRANSFER MODEL (53-O) IN THE AMES RESEARCH CENTER 3.5-FOOT HYPERSONIC WIND TUNNEL                                    |
| 2387                       | TASK CANCELLED       | LA104                    |   |
| 2388                       | 167,676              | OH84A                    | RESULTS OF WIND TUNNEL TESTS OF THIN-SKIN THERMOCOUPLE MODELS 83-O (O-04-SCALE) AND 60-O (O-0175-SCALE) OF THE SPACE SHUTTLE ORBITER IN THE AEDC VKF HYPERSONIC WIND TUNNEL B (OH84A)                         |
| 2389                       | 160,810              | OA145C                   | RESULTS OF AN INVESTIGATION TO VERIFY SHUTTLE ORBITER VEHICLE 102 AERO CHARACTERISTICS UTILIZING AN .05-SCALE HI-FIDELITY REMOTE CONTROL MODEL (39-O) IN THE AMES RESEARCH CENTER UNITARY WIND TUNNEL(OA145C) |
| 2389                       | 160,811              | OA145C                   | RESULTS OF AN INVESTIGATION TO VERIFY SHUTTLE ORBITER VEHICLE 102 AERO CHARACTERISTICS UTILIZING AN .05-SCALE HI-FIDELITY REMOTE CONTROL MODEL (39-O) IN THE AMES RESEARCH CENTER UNITARY WIND TUNNEL(OA145C) |
| 2389                       | 160,812              | OA145C                   | RESULTS OF AN INVESTIGATION TO VERIFY SHUTTLE ORBITER VEHICLE 102 AERO CHARACTERISTICS UTILIZING AN .05-SCALE HI-FIDELITY REMOTE CONTROL MODEL (39-O) IN THE AMES RESEARCH CENTER UNITARY WIND TUNNEL(OA145C) |

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|----------------------------|----------------------|--------------------------|---|
| 2390                       | 160.481              | LA101                    | LOW SUPERSONIC STABILITY AND CONTROL CHARACTERISTICS OF A 0.0015-SCALE (REMOTELY CONTROLLED-ELEVON) MODEL 44-0 SPACE SHUTTLE ORBITER TESTED IN THE NASA/LARC 4 FOOT UPWT (LEG 1) (LA101)                      |
| 2391                       | 167.346              | IA244                    | RESULTS OF TESTS OF THE 0.10 SCALE SPACE SHUTTLE INTEGRATED VEHICLE IN THE LANGLEY RESEARCH CENTER 8-FOOT TRANSONIC PRESSURE TUNNEL, MODEL 72-OTS TEST IA244  |
| 2392                       | 151.389              | OA250                    | GROUND PROXIMITY TESTS OF THE 0.03-SCALE MODEL (45-0) SPACE SHUTTLE ORBITER IN THE ROCKWELL INTERNATIONAL NAAL LOW SPEED WIND TUNNEL  |
| 2393                       | 167.679              | IH51A                    | RESULTS OF SSV INTERFERENCE HEATING TESTS ON A 0.04-SCALE THIN-SKIN THERMOCOUPLE MODEL (58-0T) UTILIZING A SIMULATED EXTERNAL TANK & ORBITER FOREBODY IN THE NASA/ARC 3.5-FOOT HYPERSONIC WIND TUNNEL (IH51A) |
| 2393                       | 167.680              | IH51A                    | RESULTS OF SSV INTERFERENCE HEATING TESTS ON A 0.04-SCALE THIN-SKIN THERMOCOUPLE MODEL (58-0T) UTILIZING A SIMULATED EXTERNAL TANK & ORBITER FOREBODY IN THE NASA/ARC 3.5-FOOT HYPERSONIC WIND TUNNEL (IH51A) |
| 2393                       | 167.681              | IH51A                    | RESULTS OF SSV INTERFERENCE HEATING TESTS ON A 0.04-SCALE THIN-SKIN THERMOCOUPLE MODEL (58-0T) UTILIZING A SIMULATED EXTERNAL TANK & ORBITER FOREBODY IN THE NASA/ARC 3.5-FOOT HYPERSONIC WIND TUNNEL (IH51A) |
| 2393                       | 167.682              | IH51A                    | RESULTS OF SSV INTERFERENCE HEATING TESTS ON A 0.04-SCALE THIN-SKIN THERMOCOUPLE MODEL (58-0T) UTILIZING A SIMULATED EXTERNAL TANK & ORBITER FOREBODY IN THE NASA/ARC 3.5-FOOT HYPERSONIC WIND TUNNEL (IH51A) |
| 2394                       |                      | LA109                    | ** DOCUMENTATION NOT COMPLETE **  |
| 2395                       | 151.394              | LA111                    | EFFECT OF SILTS POD ON THE TRANSONIC AERODYNAMIC CHARACTERISTICS OF A 0.015-SCALE SHUTTLE ORBITER MODEL (44-0) TESTED IN THE NASA/LARC 8-FOOT TPT   |
| 2396                       | 151.393              | LA110                    | EFFECT OF SILTS POD ON THE LOW SUPERSONIC AERODYNAMIC CHARACTERISTICS OF A 0.015-SCALE SHUTTLE ORBITER MODEL (44-0) TESTED IN THE NASA/LARC 4-FOOT UPWT (LEG 1)   |
| 2397                       | 167.347              | LA113                    | RESULTS OF WIND TUNNEL TESTS ON A 0.010 SCALE MODEL (72-OTS) ROCKWELL SPACE SHUTTLE VEHICLE IN THE LARC 8-FOOT TRANSONIC PRESSURE TUNNEL (LA113)  |
| 2398                       | 160.850              | IA105A                   | RESULTS OF TESTS USING A 0.03 SCALE MODEL (47-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE AEDC 16 FOOT TRANSONIC PROPULSION WIND TUNNEL (IA105A)  |

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| 2398                       | 160.851              | V-02<br>1A105A           | RESULTS OF TESTS USING A 0.03 SCALE MODEL (47-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE AEDC 16 FOOT TRANSONIC PROPULSION WIND TUNNEL (1A105A)               |
| 2398                       | 160.852              | V-03<br>1A105A           | RESULTS OF TESTS USING A 0.03 SCALE MODEL (47-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE AEDC 16 FOOT TRANSONIC PROPULSION WIND TUNNEL (1A105A)               |
| 2399                       | 151.328              | LA114                    | EFFECT OF SILTS POD ON THE HIGH SUPERSONIC AERODYNAMIC CHARACTERISTICS OF A 0.015-SCALE SHUTTLE ORBITER MODEL (44-0) TESTED IN THE NASA/LARC 1-FOOT UPWT (LEG 2)       |
| 2400                       | 160.518              | OA234                    | RESULTS OF SSV ORBITER AIR DATA SYSTEM CALIBRATION TEST USING THE 0.10-SCALE ORBITER FOREBODY MODEL 99-0 IN THE NASA/LEWIS 10 X 10-FOOT SUPERSONIC WIND TUNNEL (OA234) |
| 2401                       | 151.395              | 151A/B/C/DS3             | AERONOLISE TEST RESULTS USING A 0.040-SCALE SPACE SHUTTLE VEHICLE CONFIGURATION 2A MODEL (11-OTS) IN THE AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS                |
| 2402                       | 151.763              | OA223                    | SYSTEM CHECKOUT OF THE 0.05-SCALE SPACE SHUTTLE VEHICLE ORBITER 102 MODEL (39-0) IN THE NAAL LOW SPEED WIND TUNNEL (OA223)   |
| 2403                       | 160.515              | V-01<br>1A156A           | RESULTS OF TESTS USING A 0.02-SCALE MODEL (89-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE AEDC 16-FOOT TRANSONIC PROPULSION WIND TUNNEL (1A156A)               |
| 2403                       | 160.516              | V-02<br>1A156A           | RESULTS OF TESTS USING A 0.02-SCALE MODEL (89-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE AEDC 16-FOOT TRANSONIC PROPULSION WIND TUNNEL (1A156A)               |
| 2403                       | 160.517              | V-03<br>1A156A           | RESULTS OF TESTS USING A 0.02-SCALE MODEL (89-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE AEDC 16-FOOT TRANSONIC PROPULSION WIND TUNNEL (1A156A)               |
| 2404                       | 160.510              | V-01<br>1A119            | RESULTS OF TESTS USING A 0.020-SCALE MODEL (88-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE JET PLUME IN THE NASA/ARC UPWT 11 X 11-FOOT LEC (TEST 1A119)               |
| 2404                       | 160.511              | V-02<br>1A119            | RESULTS OF TESTS USING A 0.020-SCALE MODEL (88-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE JET PLUME IN THE NASA/ARC UPWT 11 X 11-FOOT LEC (TEST 1A119)               |



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|----------------------------|----------------------|--------------------------|--|
| 2404                       | 160.512              | 1A119                    | RESULTS OF TESTS USING A 0.020-SCALE MODEL (88-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE JET PLUME IN THE NASA/ARC UPWT 11 X 11-FOOT LEC (TEST 1A119)   |
| 2404                       | 160.513              | 1A119                    | RESULTS OF TESTS USING A 0.020-SCALE MODEL (88-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE JET PLUME IN THE NASA/ARC UPWT 11 X 11-FOOT LEC (TEST 1A119)   |
| 2405                       | 151.756              | 0A101                    | RESULTS OF A LOW SPEED APPROACH AND LANDING EXPERIMENTAL INVESTIGATION OF A 0.050-SCALE SPACE SHUTTLE ORBITER MODEL (39-O) IN THE NASA/AMES RESEARCH CENTER'S 12-FOOT PRESSURE WIND TUNNEL (0A101)                             |
| 2405                       | 151.757              | 0A101                    | RESULTS OF A LOW SPEED APPROACH AND LANDING EXPERIMENTAL INVESTIGATION OF A 0.050-SCALE SPACE SHUTTLE ORBITER MODEL (39-O) IN THE NASA/AMES RESEARCH CENTER'S 12-FOOT PRESSURE WIND TUNNEL (0A101)                             |
| 2405                       | 151.758              | 0A101                    | RESULTS OF A LOW SPEED APPROACH AND LANDING EXPERIMENTAL INVESTIGATION OF A 0.050-SCALE SPACE SHUTTLE ORBITER MODEL (39-O) IN THE NASA/AMES RESEARCH CENTER'S 12-FOOT PRESSURE WIND TUNNEL (0A101)                             |
| 2405                       | 151.759              | 0A101                    | RESULTS OF A LOW SPEED APPROACH AND LANDING EXPERIMENTAL INVESTIGATION OF A 0.050-SCALE SPACE SHUTTLE ORBITER MODEL (39-O) IN THE NASA/AMES RESEARCH CENTER'S 12-FOOT PRESSURE WIND TUNNEL (0A101)                             |
| 2405                       | 151.760              | 0A101                    | RESULTS OF A LOW SPEED APPROACH AND LANDING EXPERIMENTAL INVESTIGATION OF A 0.050-SCALE SPACE SHUTTLE ORBITER MODEL (39-O) IN THE NASA/AMES RESEARCH CENTER'S 12-FOOT PRESSURE WIND TUNNEL (0A101)                             |
| 2405                       | 151.761              | 0A101                    | RESULTS OF A LOW SPEED APPROACH AND LANDING EXPERIMENTAL INVESTIGATION OF A 0.050-SCALE SPACE SHUTTLE ORBITER MODEL (39-O) IN THE NASA/AMES RESEARCH CENTER'S 12-FOOT PRESSURE WIND TUNNEL (0A101)                             |
| 2406                       | 167.348              | 1A181                    | RESULTS OF AN EXPERIMENTAL INVESTIGATION IN THE NASA/MSFC 14-INCH TRISONIC WIND TUNNEL ON A .004-SCALE MODEL (74-OTS) SSLV TO DETERMINE INFLUENCE OF ORBITER AND SRB'S ON TEH EXTERNAL TANK NOSE PRESSURE DISTRIBUTION (1A181) |
| 2407                       | 167.374              | 1H73                     | RESULTS OF M=5.3 HEAT TRANSFER TESTS ON THE SECOND STAGE SPACE SHUTTLE CONFIGURATION AT RTLS ABORT MISSION PROFILE CONDITIONS USING THE 0.006 SCALE MODEL 50-O & 41-T IN THE NASA/ARC 3.5-FOOT HWT (1H73)                      |

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|----------------------------|----------------------|--------------------------|---|
| 2408                       | 160,498              | V-01                     | IA156B  |
|                            |                      |                          | RESULTS OF TESTS USING A 0.02-SCALE MODEL (89-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE NASA/AMES RESEARCH CENTER 9X7 FOOT SUPERSONIC WIND TUNNEL (IA156B)                |
| 2408                       | 160,499              | V-02                     | IA156B  |
|                            |                      |                          | RESULTS OF TESTS USING A 0.02-SCALE MODEL (89-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE NASA/AMES RESEARCH CENTER 9X7 FOOT SUPERSONIC WIND TUNNEL (IA156B)                |
| 2408                       | 160,500              | V-03                     | IA156B  |
|                            |                      |                          | RESULTS OF TESTS USING A 0.02-SCALE MODEL (89-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE NASA/AMES RESEARCH CENTER 9X7 FOOT SUPERSONIC WIND TUNNEL (IA156B)                |
| 2409                       | 160,842              |                          | LA115   |
|                            |                      |                          | ADDITIONAL TRANSONIC STABILITY AND CONTROL CHARACTERISTICS OF A 0.015 SCALE(REMOTELY CONTROLLED ELEVON) MODEL 44-0 SPACE SHUTTLE ORBITER TESTED IN THE NASA/LARC 8-FOOT TPT (LA115) |
| 2410                       | 151,777              |                          | DH56  |
|                            |                      |                          | RESULTS OF THE NASA/RI ORBITER WING TIP HEATING TEST WITH THE 0.08-SCALE ORBITER WING MODEL (91-0) IN THE AEDC VKI B HYPERSONIC WIND TUNNEL (DH56)                                  |
| 2411                       |                      |                          | LA116   |
|                            |                      |                          | ** DOCUMENTATION NOT COMPLETE **  |
| 2412                       | 167,386              | V-01                     | IH90  |
|                            |                      |                          | RESULTS OF HEAT TRANSFER TESTS ON THE SPACE SHUTTLE INTEGRATED VEHICLE, UNDER ASCENT CONDITIONS, USING THE 0.0175-SCALE 60-OTS MODEL IN THE NASA/ARC 3.5-FOOT HWT (IH-90)           |
| 2412                       | 167,387              | V-02                     | IH90  |
|                            |                      |                          | RESULTS OF HEAT TRANSFER TESTS ON THE SPACE SHUTTLE INTEGRATED VEHICLE, UNDER ASCENT CONDITIONS, USING THE 0.0175-SCALE 60-OTS MODEL IN THE NASA/ARC 3.5-FOOT HWT (IH-90)           |
| 2413                       | 160,858              | V-01                     | IA105B  |
|                            |                      |                          | RESULTS OF TESTS USING A 0.03 SCALE MODEL (47-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE NASA/ARC 9X7 FOOT SUPERSONIC WIND TUNNEL (IA105B)                                 |
| 2413                       | 160,859              | V-02                     | IA105B  |
|                            |                      |                          | RESULTS OF TESTS USING A 0.03 SCALE MODEL (47-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE NASA/ARC 9X7 FOOT SUPERSONIC WIND TUNNEL (IA105B)                                 |
| 2414                       | 160,484              | V-01                     | OA232   |
|                            |                      |                          | CALIBRATION TESTS OF THE SPACE SHUTTLE AIR DATA SYSTEM USING A 0.10-SCALE ORBITER FOREBODY MODEL (99-0) IN THE AEDC 16T PROPULSION WIND TUNNEL (OA232)                              |
| 2414                       | 160,485              | V-02                     | OA232   |
|                            |                      |                          | CALIBRATION TESTS OF THE SPACE SHUTTLE AIR DATA SYSTEM USING A 0.10-SCALE ORBITER FOREBODY MODEL (99-0) IN THE AEDC 16T PROPULSION WIND TUNNEL (OA232)                              |

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|----------------------------|----------------------|--------------------------|--|
| 2415                       | 151,784              | OA208/209                | RESULTS OF TESTS USING A 0.02-SCALE MODEL (105-O) OF THE SPACE SHUTTLE VEHICLE ORBITER IN THE ARNOLD ENGINEERING DEVELOPMENT CENTER VON KARMAN FACILITY SUPERSONIC TUNNEL A (OA209) AND HYPERSONIC TUNNEL B (OA208/209)  |
| 2415                       | 151,785              | OA208/209                | RESULTS OF TESTS USING A 0.02-SCALE MODEL (105-O) OF THE SPACE SHUTTLE VEHICLE ORBITER IN THE ARNOLD ENGINEERING DEVELOPMENT CENTER VON KARMAN FACILITY SUPERSONIC TUNNEL A (OA209) AND HYPERSONIC TUNNEL B (OA208/209)  |
| 2416                       | 160,824              | IA603                    | RESULTS OF TESTS IN THE NASA/MSFC 14-INCH TRISONIC WIND TUNNEL ON A .004 SCALE MODEL (74-OTS) THRUST AUGMENTED SPACE SHUTTLE INTEGRATED VEHICLE (IA603)  |
| 2417                       | 151,770              | OH58                     | RESULTS OF AEROTHERMODYNAMIC HEAT TRANSFER TESTS ON A 0.03-SCALE MODEL (93-O) SIMULATING THE ELEVON/ELEVON GAP AND ELEVON/FUSELAGE INTERFACE REGIONS OF THE SS ORBITER IN THE ARC 3 SHWT.  |
| 2418                       | 151,414              | IH100                    | RESULTS OF TESTS OF A DEVELOPMENT FLIGHT INSTRUMENTATION GAS TEMPERATURE PROBE IN THE AMES RESEARCH CENTER 3.5' FT. HYPERSONIC WIND TUNNEL (IH100)   |
| 2419                       | 151,762              | OA2708/C                 | RESULTS OF AN INVESTIGATION TO VERIFY SHUTTLE ORBITER AERO-CHARACTERISTICS AND EXAMINE TRANSONIC BLOCKAGE AND SHOCK REFLECTION EFFECTS UTILIZING .02-SCALE HI-FIDELITY MODELS 104-O AND 105-O IN THE LANGLEY RESEARCH CENTER 16-FT. TRANSONIC WIND TUNNEL OA2708/C |
| 2420                       | 167,385              | OH103A                   | RESULTS OF TESTS ON A 0.04-SCALE SPACE SHUTTLE ORBITER FOREBODY MODEL (83-O) IN THE AEDC VKF HYPERSONIC WIND TUNNEL 'B' TO OBTAIN AERODYNAMIC HEATING DISTRIBUTION ON LOWER FUSELAGE AND RCS NOZZLE AREAS (OH103A)   |
| 2421                       | 160,495              | OA251B/C                 | CALIBRATION TESTS OF THE SPACE SHUTTLE ORBITER AIR DATA SYSTEM USING A 0.10-SCALE ORBITER FOREBODY MODEL (99.0) IN THE NASA AMES RESEARCH CENTER 9 X 7 AND 8 X 7-FOOT LEGS OF THE UNITARY PLAN WIND TUNNEL (OA251B AND C)  |
| 2421                       | 160,496              | OA251B/C                 | CALIBRATION TESTS OF THE SPACE SHUTTLE ORBITER AIR DATA SYSTEM USING A 0.10-SCALE ORBITER FOREBODY MODEL (99.0) IN THE NASA AMES RESEARCH CENTER 9 X 7 AND 8 X 7-FOOT LEGS OF THE UNITARY PLAN WIND TUNNEL (OA251B AND C)  |
| 2422                       | 151,767              | FH15                     | RESULTS OF THIN SKIN THERMOCOUPLE TESTS CONDUCTED IN THE AEDC VKF TUNNEL A TO DETERMINE HEAT TRANSFER RATES ON A .0275 SCALE SSV ET FOREBODY (FH15)  |
| 2423                       | 151,768              | FH16                     | RESULTS OF THIN SKIN THERMOCOUPLE TESTS CONDUCTED IN THE NASA/ARC 3.5 FT. HYPERSONIC WIND TUNNEL TO DETERMINE HEAT TRANSFER RATES ON A .0275 SCALE SSV ET FOREBODY (FH16)  |

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| 2424                       | 160,506              | DA126A,B,C               | RESULTS OF TESTS ON THE EFFECTS OF AEROELASTICITY OF THE SPACE SHUTTLE ORBITER VERTICAL TAIL USING A 0.03-SCALE MODEL (47-O) IN THE NASA AMES UNITARY WIND TUNNELS (DA126A/B)  |
| 2424                       | 160,507              | DA126A,B,C               | RESULTS OF TESTS ON THE EFFECTS OF AEROELASTICITY OF THE SPACE SHUTTLE ORBITER VERTICAL TAIL USING A 0.03-SCALE MODEL (47-O) IN THE NASA AMES UNITARY WIND TUNNELS (DA126A/B)  |
| 2424                       | 160,508              | DA126A,B,C               | RESULTS OF TESTS ON THE EFFECTS OF AEROELASTICITY OF THE SPACE SHUTTLE ORBITER VERTICAL TAIL USING A 0.03-SCALE MODEL (47-O) IN THE NASA AMES UNITARY WIND TUNNELS (DA126ABC)  |
| 2425                       |                      | LA117                    | ** DOCUMENTATION NOT COMPLETE **   |
| 2426                       | TP1186               | LA124                    | A WIND TUNNEL STUDY OF THE APPLICABILITY OF FAR-FIELD SONIC-ROOM THEORY TO THE SPACE SHUTTLE ORBITER   |
| 2427                       | 167,675              | OH103B                   | RESULTS OF TESTS OF A 0.0175-SCALE THIN-SKIN THERMOCOUPLE WIND TUNNEL MODEL (60-O) OF THE SPACE SHUTTLE ORBITER TO DETERMINE EFFECTS OF SURFACE ROUGHNESS IN THE AEDC VKI HYPERSONIC WIND TUNNEL B (OH103B)  |
| 2428                       | 160,523              | IH11                     | WIND TUNNEL TESTS OF THE 0.035-SCALE INTEGRATED SPACE SHUTTLE VEHICLE 84-OTS IN THE NASA/LEWIS 10 X 10-FOOT SUPERSONIC WIND TUNNEL (IH11)  |
| 2428                       | 160,524              | IH11                     | WIND TUNNEL TESTS OF THE 0.035-SCALE INTEGRATED SPACE SHUTTLE VEHICLE 84-OTS IN THE NASA/LEWIS 10 X 10-FOOT SUPERSONIC WIND TUNNEL (IH11)  |
| 2428                       | 160,525              | IH11                     | WIND TUNNEL TESTS OF THE 0.035-SCALE INTEGRATED SPACE SHUTTLE VEHICLE 84-OTS IN THE NASA/LEWIS 10 X 10-FOOT SUPERSONIC WIND TUNNEL (IH11)  |
| 2428                       | 160,526              | IH11                     | WIND TUNNEL TESTS OF THE 0.035-SCALE INTEGRATED SPACE SHUTTLE VEHICLE 84-OTS IN THE NASA/LEWIS 10 X 10-FOOT SUPERSONIC WIND TUNNEL (IH11)  |
| 2429                       | 167,353              | IH51B                    | THIN SKIN HEAT TRANSFER TESTS OF A SIMULATED SPACE SHUTTLE 0.04 SCALE SOLID ROCKET BOOSTER/ET MODEL (58-TS) IN THE NASA/ARC 3.5 FOOT HYPERSONIC WIND TUNNEL (IH51B)  |
| 2430                       | 160,817              | DA270A                   | RESULTS OF AN INVESTIGATION TO VERIFY SHUTTLE ORBITER AERO-CHARACTERISTICS AND EXAMINE TRANSONIC BLOCKAGE AND SHOCK REFLECTION EFFECTS UTILIZING AN 0.05-SCALE HI-FIDELITY REMOTE CONTROL MODEL(39-O) IN THE LANGLEY RESEARCH CENTER 16-FT. TRANSONIC WIND TUNNEL DA270A |

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|----------------------------|----------------------|--------------------------|--|
| 2430                       | 160,818              | V-02                     | OA270A<br>RESULTS OF AN INVESTIGATION TO VERIFY SHUTTLE ORBITER AERO-CHARACTERISTICS AND EXAMINE TRANSONIC BLOCKAGE AND SHOCK REFLECTION EFFECTS UTILIZING AN .05-SCALE HI-FIDELITY REMOTE CONTROL MODEL(39-0) IN THELANGLEY RESEARCH CENTER 16-FT. TRANSONIC WIND TUNNEL OA270A |
| 2430                       | 160,819              | V-03                     | OA270A<br>RESULTS OF AN INVESTIGATION TO VERIFY SHUTTLE ORBITER AERO-CHARACTERISTICS AND EXAMINE TRANSONIC BLOCKAGE AND SHOCK REFLECTION EFFECTS UTILIZING AN .05-SCALE HI-FIDELITY REMOTE CONTROL MODEL(39-0) IN THELANGLEY RESEARCH CENTER 16-FT. TRANSONIC WIND TUNNEL OA270A |
| 2431                       | 151,793              | V-01                     | IH85<br>TEST RESULTS FROM THE NASA/ROCKELL INTERNATIONAL SPACE SHUTTLE INTEGRATED VEHICLE TEST USING A 0.0175-SCALE MODEL (60-OTS) CONDUCTED IN THE AEDC-VKF TUNNEL A (IH85)   |
| 2431                       | 151,794              | V-02                     | IH85<br>TEST RESULTS FROM THE NASA/ROCKELL INTERNATIONAL SPACE SHUTTLE INTEGRATED VEHICLE TEST USING A 0.0175-SCALE MODEL (60-OTS) CONDUCTED IN THE AEDC-VKF TUNNEL A (IH85)   |
| 2431                       | 151,795              | V-03                     | IH85<br>TEST RESULTS FROM THE NASA/ROCKELL INTERNATIONAL SPACE SHUTTLE INTEGRATED VEHICLE TEST USING A 0.0175-SCALE MODEL (60-OTS) CONDUCTED IN THE AEDC-VKF TUNNEL A (IH85)   |
| 2431                       | 151,796              | V-04                     | IH85<br>TEST RESULTS FROM THE NASA/ROCKELL INTERNATIONAL SPACE SHUTTLE INTEGRATED VEHICLE TEST USING A 0.0175-SCALE MODEL (60-OTS) CONDUCTED IN THE AEDC-VKF TUNNEL A (IH85)   |
| 2431                       | 151,797              | V-05                     | IH85<br>TEST RESULTS FROM THE NASA/ROCKELL INTERNATIONAL SPACE SHUTTLE INTEGRATED VEHICLE TEST USING A 0.0175-SCALE MODEL (60-OTS) CONDUCTED IN THE AEDC-VKF TUNNEL A (IH85)   |
| 2431                       | 151,798              | V-06                     | IH85<br>TEST RESULTS FROM THE NASA/ROCKELL INTERNATIONAL SPACE SHUTTLE INTEGRATED VEHICLE TEST USING A 0.0175-SCALE MODEL (60-OTS) CONDUCTED IN THE AEDC-VKF TUNNEL A (IH85)   |
| 2431                       | 151,799              | V-07                     | IH85<br>TEST RESULTS FROM THE NASA/ROCKELL INTERNATIONAL SPACE SHUTTLE INTEGRATED VEHICLE TEST USING A 0.0175-SCALE MODEL (60-OTS) CONDUCTED IN THE AEDC-VKF TUNNEL A (IH85)   |
| 2431                       | 151,800              | V-08                     | IH85<br>TEST RESULTS FROM THE NASA/ROCKELL INTERNATIONAL SPACE SHUTTLE INTEGRATED VEHICLE TEST USING A 0.0175-SCALE MODEL (60-OTS) CONDUCTED IN THE AEDC-VKF TUNNEL A (IH85)   |

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|----------------------------|----------------------|--------------------------|---|
| 2432                       | 160,845              | LA125                    | INVESTIGATION OF LONGITUDINAL AND LATERAL-DIRECTIONAL AERODYNAMIC CHARACTERISTICS FOR A 2 PERCENT (MODEL 105-O) SPACE SHUTTLE ORBITER (VEHICLE 102) IN THE LARC UPWT AT MACH NUMBERS FROM 2.5 TO 4.5 (LA125)  |
| 2433                       | 151,764              | OA171                    | RESULTS OF TESTS USING A 0.020-SCALE MODEL (105-O) OF THE SPACE SHUTTLE VEHICLE ORBITER IN THE NAVAL SURFACE WEAPONS CENTER HYPERVELOCITY TUNNEL 9 (OA171)  |
| 2434                       | 151,782              | OA129                    | RESULTS OF TESTS ON THE EFFECTS OF AEROELASTICITY OF THE SPACE SHUTTLE ORBITER VERTICAL TAIL USING A 0.03-SCALE MODEL (47-O) IN THE AEDC-16T PROPULSION WIND TUNNEL (OA129)   |
| 2435                       | 151,415              | 1H39                     | BASE PRESSURE AND HEAT TRANSFER TESTS OF THE 0.025-SCALE SPACE SHUTTLE PLUME SIMULATION MODEL (19-OTS) IN THE NASA-LEWIS RESEARCH CENTER 10X10-FOOT SUPERSONIC WIND TUNNEL (TEST 1H39)  |
| 2436                       | TM-X72661            | LA126                    | SPACE SHUTTLE ORBITER TRIMMED CENTER OF GRAVITY EXTENSION STUDY VOL UME VI--SYSTEM DESIGN STUDIES   |
| 2437                       | 151,766              | FA25                     | RESULTS OF TRANSONIC TESTS IN THE NASA/MSFC 14-INCH TRANSONIC WIND TUNNEL ON A 0.004 SCALE MODEL (74-OTS) SPACE SHUTTLE LAUNCH VEHICLE (FA25)   |
| 2438                       | 160,855              | IA138                    | RESULTS OF AN EXPERIMENTAL INVESTIGATION TO DETERMINE ORBITER AND SOLID ROCKET BOOSTER JET PLUME INDUCED EFFECTS UTILIZING A .01-SCALE INTEGRATED VEHICLE SPACE SHUTTLE MODEL (75-OTS) IN THE NASA/ARC 9X7 FOOT LEG OF THE UNITARY PLAN WIND TUNNEL |
| 2438                       | 160,856              | V-02                     | RESULTS OF AN EXPERIMENTAL INVESTIGATION TO DETERMINE ORBITER AND SOLID ROCKET BOOSTER JET PLUME INDUCED EFFECTS UTILIZING A .01-SCALE INTEGRATED VEHICLE SPACE SHUTTLE MODEL (75-OTS) IN THE NASA/ARC 9X7 FOOT LEG OF THE UNITARY PLAN WIND TUNNEL |
| 2438                       | 160,857              | V-03                     | RESULTS OF AN EXPERIMENTAL INVESTIGATION TO DETERMINE ORBITER AND SOLID ROCKET BOOSTER JET PLUME INDUCED EFFECTS UTILIZING A .01-SCALE INTEGRATED VEHICLE SPACE SHUTTLE MODEL (75-OTS) IN THE NASA/ARC 9X7 FOOT LEG OF THE UNITARY PLAN WIND TUNNEL |
| 2439                       | 167,673              | IA182                    | RESULTS OF TESTS USING A 0.03-SCALE MODEL (47-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE AEDC 16-FOOT TRANSONIC PROPULSION WIND TUNNEL (IA182)   |

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| 2440                       | 151,765              | 1H83                     | BASE PRESSURE AND HEAT TRANSFER TESTS OF THE O.0225-SCALE SPACE SHUTTLE PLUME SIMULATION MODEL (19-OTS) IN YAWED FLIGHT CONDITIONS IN THE NASA-LEWIS 10X10-FOOT SUPERSONIC WIND TUNNEL                   |
| 2441                       |                      | LA127                    | ** DOCUMENTATION NOT COMPLETE **   |
| 2442                       |                      | LA128                    | ** DOCUMENTATION NOT COMPLETE **   |
| 2443                       | 151,769              | OH79                     | PRESSURE AND HEAT TRANSFER TESTS OF THE O.040-SCALE SPACE SHUTTLE ORBITER BASE HEATING MODEL (65-O) IN THE JSC THERMAL VACUUM CHAMBER A.   |
| 2444                       | 160,488              | 1A183                    | RESULTS OF TESTS USING A O.02-SCALE MODEL (89-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE AEDC 16-FOOT TRANSONIC PROPULSION WINDTUNNEL (1A183)   |
| 2444                       | 160,489              | 1A183                    | RESULTS OF TESTS USING A O.02-SCALE MODEL (89-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE AEDC 16-FOOT TRANSONIC PROPULSION WINDTUNNEL (1A183)   |
| 2445                       | 167,652              | 0A146                    | RESULTS OF A WIND TUNNEL PRESSURE LOADS TEST OF THE O.03-SCALE SPACE SHUTTLE ORBITER (MODEL 47-O) IN THE 8X7-FOOT LEG OF THE NASA/ARC UNITARY PLAN WIND TUNNEL (0A146)                                   |
| 2446                       | 167,653              | 0A146                    | RESULTS OF A WIND TUNNEL PRESSURE LOADS TEST OF THE O.03-SCALE SPACE SHUTTLE ORBITER (MODEL 47-O) IN THE 8X7-FOOT LEG OF THE NASA/ARC UNITARY PLAN WIND TUNNEL (0A146)                                   |
| 2447                       |                      | LA122                    | ** DOCUMENTATION NOT COMPLETE **   |
| 2448                       | 160,519              | DS52                     | ** DOCUMENTATION NOT COMPLETE **   |
| 2448                       | 160,520              | 1H51C                    | SPACE SHUTTLE THIN SKIN HEAT TRANSFER TESTS OF SIMULATED LARGE SCALE PROTUBERANCES AND HALF SCALE TILE ON FLAT PLATE MODEL 58-OTS IN THE NASA AMES RESEARCH CENTER 3.5-FT HYPERSONIC WIND TUNNEL (1H51C) |
| 2449                       | 160,497              | 1H51C                    | SPACE SHUTTLE THIN SKIN HEAT TRANSFER TESTS OF SIMULATED LARGE SCALE PROTUBERANCES AND HALF SCALE TILE ON FLAT PLATE MODEL 58-OTS IN THE NASA AMES RESEARCH CENTER 3.5-FT HYPERSONIC WIND TUNNEL (1H51C) |
| 2449                       |                      | 1A132                    | RESULTS OF SHUTTLE TRANSPORTATION SYSTEM ASCENT AIR DATA SYSTEM CALIBRATION TEST USING THE O.07-SCALE EXTERNAL TANK FOREBODY MODEL (68-T) IN THE AEDC PWI 16-FOOT TRANSONIC WIND TUNNEL (1A132)          |

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| 2450                       | 151, 774             | OS4A/OS4B/OS12           | EXPERIMENTAL RESULTS OF TESTS TO DETERMINE THE EFFECTS OF ORBITER THERMAL PROTECTION SUBSYSTEM (TPS) TILES ON PANEL FLUTTER CONDUCTED IN THE ARC 2X2 TWT.  |
| 2451                       | 151, 772             | OH90A/NA29               | RESULTS OF BOUNDARY LAYER TRANSITION TESTS OF THE O-025-SCALE RIGHT-HAND WING AND TRUNCATED AFT FUSELAGE MODEL (94-O) IN THE AEDC HWTB.  |
| 2452                       | 167, 383             | IH99                     | RESULTS OF HEAT TRANSFER TESTS ON THE SPACE SHUTTLE FORWARD SRB SECTION AT ASCENT CONDITIONS USING THE O-10-SCALE MODEL 98-S IN THE NASA/AMES 3.5-FOOT HWT (IH99)  |
| 2453                       | 151, 776             | IH75                     | BASE PRESSURE AND HEAT TRANSFER TESTS OF THE O-0225-SCALE SPACE SHUTTLE PLUME SIMULATION MODEL (19-OTS) IN THE NASA/CALSPAN LUDWIG TUBEWIND TUNNEL   |
| 2454                       | TM-X72661            | LA57                     | IMPACT OF RETROFITS FOR CENTER-OF-GRAVITY EXTENSION ON ORBITER THERMAL PROTECTION SYSTEM   |
| 2455                       | 151, 778             | OH102A                   | RESULTS OF FLOW ANGULARITY TESTS ON A O-0175-SCALE SPACE SHUTTLE ORBITER MODEL (156-O) ON THE AEDC VKI B HYPERSONIC WIND TUNNEL (OH102A)   |
| 2456                       | 160, 486             | IA184                    | RESULTS OF TESTS USING A O-03-SCALE MODEL (47-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE NASA/AMES RESEARCH CENTER 9X7 FOOT SUPERSONIC WIND TUNNEL (IA184)  |
| 2456                       | 160, 487             | IA184                    | RESULTS OF TESTS USING A O-03-SCALE MODEL (47-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE NASA/AMES RESEARCH CENTER 9X7 FOOT SUPERSONIC WIND TUNNEL (IA184)  |
| 2457                       | 160, 813             | IA180                    | RESULTS OF SHUTTLE TRANSPORTATION SYSTEM ASCENT AIR DATA SYSTEM HIGH SUPERSONIC CALIBRATION TEST USING THE O-07-SCALE EXTERNAL OXYGEN HYDROGEN TANK FOREBODY MODEL (68-T) IN THE UNITARY PLAN HIGH SPEED LEG OF THE LARC 4X4 WIND TUNNEL (IA180) |
| 2458                       | 167, 668             | OS36/37                  | SPACE SHUTTLE HRSI TILE TESTS OS36 AND OS37 IN THE NASA/AMES RESEARCH CENTER 11X11-FOOT AND 9X7-FOOT WIND TUNNELS USING TEST FIXTURES 96-G AND 91-D (OS36/37)  |
| 2459                       | 167, 685             | V-01                     | ** DOCUMENTATION NOT COMPLETE **   |
| 2459                       | 167, 686             | V-02                     | ** DOCUMENTATION NOT COMPLETE **   |
| 2460                       |                      | FA27                     | ** DOCUMENTATION NOT COMPLETE **   |



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| 2461                       | 167, 677             | IH51D                    | SPACE SHUTTLE TESTS OF TURBULENT BOUNDARY LAYER HEATING EFFECTS ON HALF-SCALE TILE SIMULATION USING MODEL 58-0 IN THE NASA/ARC 3.5-FOOT HYPERSONIC WIND TUNNEL (IH51D)   |
| 2462                       | 167, 370             | V-01                     | RESULTS OF SUPERSONIC ASCENT AIR DATA SYSTEM CALIBRATION TESTS. IA131B/C USING THE O-07-SCALE EXTERNAL TANK FOREBODY MODEL 68-7 IN THE ARC 9X7 AND 8X7 LEGS OF THE AMES UNITARY PLAN WIND TUNNEL                               |
| 2462                       | 167, 371             | V-02                     | RESULTS OF SUPERSONIC ASCENT AIR DATA SYSTEM CALIBRATION TESTS. IA131B/C USING THE O-07-SCALE EXTERNAL TANK FOREBODY MODEL 68-7 IN THE ARC 9X7 AND 8X7 LEGS OF THE AMES UNITARY PLAN WIND TUNNEL                               |
| 2463                       | 167, 672             | OS41/OS42/OS45           | SPACE SHUTTLE LRSI TPS TILE TESTS OS41, OS42 AND OS45 IN THE NASA/AMES RESEARCH CENTER 11X11-FOOT WIND TUNNEL USING MODEL 107-0 (OS41, OS42 AND OS45)  |
| 2464                       | 160, 828             | V-01                     | RESULTS OF HEAT TRANSFER TEST IN THE ARNOLD ENGINEERING DEVELOPMENT CENTER-VON KARMAN FACILITY TUNNELS A AND B UTILIZING SPACE SHUTTLE ORBITER THIN SKIN THERMOCOUPLE MODELS 56-0, 60-0, AND 83-0 TESTS: OH84B, OH 105, IH-102 |
| 2464                       | 160, 829             | V-02                     | RESULTS OF HEAT TRANSFER TEST IN THE ARNOLD ENGINEERING DEVELOPMENT CENTER-VON KARMAN FACILITY TUNNELS A AND B UTILIZING SPACE SHUTTLE ORBITER THIN SKIN THERMOCOUPLE MODELS 56-0, 60-0, AND 83-0 TESTS: OH84B, OH 105, IH-102 |
| 2464                       | 160, 830             | V-03                     | RESULTS OF HEAT TRANSFER TEST IN THE ARNOLD ENGINEERING DEVELOPMENT CENTER-VON KARMAN FACILITY TUNNELS A AND B UTILIZING SPACE SHUTTLE ORBITER THIN SKIN THERMOCOUPLE MODELS 56-0, 60-0, AND 83-0 TESTS: OH84B, OH 105, IH-102 |
| 2464                       | 160, 831             | V-04                     | RESULTS OF HEAT TRANSFER TEST IN THE ARNOLD ENGINEERING DEVELOPMENT CENTER-VON KARMAN FACILITY TUNNELS A AND B UTILIZING SPACE SHUTTLE ORBITER THIN SKIN THERMOCOUPLE MODELS 56-0, 60-0, AND 83-0 TESTS: OH84B, OH 105, IH-102 |
| 2464                       | 160, 832             | V-05                     | RESULTS OF HEAT TRANSFER TEST IN THE ARNOLD ENGINEERING DEVELOPMENT CENTER-VON KARMAN FACILITY TUNNELS A AND B UTILIZING SPACE SHUTTLE ORBITER THIN SKIN THERMOCOUPLE MODELS 56-0, 60-0, AND 83-0 TESTS: OH84B, OH 105, IH-102 |
| 2464                       | 160, 833             | V-06                     | RESULTS OF HEAT TRANSFER TEST IN THE ARNOLD ENGINEERING DEVELOPMENT CENTER-VON KARMAN FACILITY TUNNELS A AND B UTILIZING SPACE SHUTTLE ORBITER THIN SKIN THERMOCOUPLE MODELS 56-0, 60-0, AND 83-0 TESTS: OH84B, OH 105, IH-102 |
| 2465                       | 167, 674             | OS55/57                  | AERODYNAMIC VENTING CHARACTERISTICS TESTS OF FULL-SCALE SPACE SHUTTLE MODEL 81-0 HRS1 TPS TILES UNDER A SIMULATED LAUNCH ENVIRONMENT IN THE NAS /ARC 9X7-FOOT WIND TUNNEL (OS55/57)  |

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|----------------------------|----------------------|--------------------------|--|
| 2466                       | 167,663              | V-01<br>OA257            | RESULTS OF INVESTIGATIONS OF THE 0.010-SCALE OV-102 CONFIGURATION SPACE SHUTTLE VEHICLE ORBITER MODEL 72-0 IN THE NASA/LANGLEY RESEARCH CENTER 20-INCH MACH 6 TUNNEL (OA257)                         |
| 2466                       | 167,664              | V-02<br>OA257            | RESULTS OF INVESTIGATIONS OF THE 0.010-SCALE OV-102 CONFIGURATION SPACE SHUTTLE VEHICLE ORBITER MODEL 72-0 IN THE NASA/LANGLEY RESEARCH CENTER 20-INCH MACH 6 TUNNEL (OA257)                         |
| 2467                       | 160,834              | IH103                    | RESULTS OF AEROTHERMODYNAMIC HEAT TRANSFER TESTS ON 0.0175-SCALE MODELS 60-0T AND 56-0/60T CONDUCTED IN THE NASA/AMES RESEARCH CENTER 3.5-FOOT HYPersonic WIND TUNNEL (IH103)                        |
| 2468                       | 167,352              | OH105B/OH84C             | RESULTS OF A HEAT TRANSFER TEST SERIES IN THE NASA/ARC 3.5 FOOT HYPersonic WIND TUNNEL UTILIZING SPACE SHUTTLE ORBITER THIN-SKIN THERMOCOUPLE MODELS 60-0 AND 83-0 (TESTS OH84C AND OH105B)          |
| 2469                       | 167,367              | OS302A                   | SPACE SHUTTLE AFRSI LARGE-SCALE DEVELOPMENT TEST USING MODEL 117-0 SPECIMENS AND MODEL 96-0 TEST FIXTURE IN THE AMES RESEARCH CENTER 11X11-FOOT TRANSONIC WIND TUNNEL (OS302A)                       |
| 2470                       | 167,658              | OS31A                    | SPACE SHUTTLE LRSI THIN TILE TEST IN THE NASA/AMES RESEARCH CENTER 11X11-FOOT UNITARY PLAN WIND TUNNEL USING TEST FIXTURE 96-0 (OS31A)   |
| 2471                       | 160,514              | LA132                    | RESULTS OF TESTS ON A .02 SCALE SPACE SHUTTLE LAUNCH VEHICLE MODEL (B90TS) IN THE LARC 16-FT TRANSONIC WIND TUNNEL TO DETERMINE PRESSURE DISTRIBUTION ALONG THE EXTERNAL TANK LOX CABLE TRAY (LA132) |
| 2472                       | 160,494              | OH400                    | RESULTS OF AN ORBITER SILTS POD HEAT TRANSFER AND FLOW FIELD TEST USING A 0.0175-SCALE SPACE SHUTTLE ORBITER(92-0) IN THE AEDC VKI HYPersonic WIND TUNNEL B (OH400)                                  |
| 2473                       | 167,388              | V-01<br>OA252            | AERODYNAMIC LOADS TEST OF 0.66-SCALE SPACE SHUTTLE ORBITER TILE ARRAY MODEL (106-0) IN THE NASA/ARC 2-FOOT TRANSONIC WIND TUNNEL (OA252)   |
| 2473                       | 167,389              | V-02<br>OA252            | AERODYNAMIC LOADS TEST OF 0.66-SCALE SPACE SHUTTLE ORBITER TILE ARRAY MODEL (106-0) IN THE NASA/ARC 2-FOOT TRANSONIC WIND TUNNEL (OA252)   |
| 2474                       | 160,826              | FA28                     | RESULTS OF TESTS ON A .004 SCALE SPACE SHUTTLE LAUNCH CONFIGURATION (MODEL 74-0TS) IN THE NASA/MSFC 14-INCH TRANSONIC WIND TUNNEL (FA28)   |
| 2475                       | 160,509              | LA140                    | PRESSURE DISTRIBUTION AND INTEGRATED LOADS AT FOUR STATIONS ON THE SPACE SHUTTLE TANK LOX FEEDLINE (LA140)   |

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| 2476                       |                      | IA190A/IA190B            | RESULTS OF INVESTIGATIONS ON AN O.004-SCALE 140C MODIFIED CONFIGURATION SPACE SHUTTLE VEHICLE ORBITER MODEL (74-0) IN THE NASA/LANGLEY RESEARCH CENTER 20-INCH MACH 6 TUNNEL (LA141)                             |
| 2477                       | 160,825              | LA141A/B                 | HIGH SUPERSONIC RUDDER EFFECTIVENESS AND EFFECT OF SILTS POD ON A O.20-SCALE (REMOTELY DRIVEN CONTROL SURFACE) MODEL 106-0 SPACE SHUTTLE ORBITER TESTED IN THE NASA/LARC 4-FOOT UNITARY PLAN WIND TUNNEL (LA131) |
| 2478                       | 160,503              | V-01                     | HIGH SUPERSONIC RUDDER EFFECTIVENESS AND EFFECT OF SILTS POD ON A O.20-SCALE (REMOTELY DRIVEN CONTROL SURFACE) MODEL 106-0 SPACE SHUTTLE ORBITER TESTED IN THE NASA/LARC 4-FOOT UNITARY PLAN WIND TUNNEL (LA131) |
| 2478                       | 160,504              | V-02                     | HIGH SUPERSONIC RUDDER EFFECTIVENESS AND EFFECT OF SILTS POD ON A O.20-SCALE (REMOTELY DRIVEN CONTROL SURFACE) MODEL 106-0 SPACE SHUTTLE ORBITER TESTED IN THE NASA/LARC 4-FOOT UNITARY PLAN WIND TUNNEL (LA131) |
| 2478                       | 160,505              | V-03                     | HIGH SUPERSONIC RUDDER EFFECTIVENESS AND EFFECT OF SILTS POD ON A O.20-SCALE (REMOTELY DRIVEN CONTROL SURFACE) MODEL 106-0 SPACE SHUTTLE ORBITER TESTED IN THE NASA/LARC 4-FOOT UNITARY PLAN WIND TUNNEL (LA131) |
| 2479                       |                      | IA600                    | RESULTS OF HEAT TRANSFER TESTS ON THE SPACE SHUTTLE SECOND STAGE ASCENT VEHICLE AT FREESTREAM MACH=5.3 AND 7.3 IN THE NASA/ARC 3.5-FOOT HWT USING THE O.0175-SCALE MODEL 60-OT(IH104)                            |
| 2480                       | 167,657              | IH104                    | RESULTS OF TESTS IN THE NASA/MSFC 14-INCH TRISONIC WIND TUNNEL ON A O.004-SCALE MODEL (74-OTS) THRUST AUGMENTED SPACE SHUTTLE INTEGRATEDVEHICLE (IA602)  |
| 2481                       | 167,377              | IA602                    | RESULTS OF TESTS FOR FORCE, MOMENT, PRESSURE AND AEROELASTIC DATA USING THE O.030 SCALE PRESSURE LOADS SPACE SHUTTLE ORBITER MODEL (47-0) IN THE NASA/ARC 11 FOOT UNITARY PLAN WIND TUNNEL. (OA400)              |
| 2482                       | 160,814              | V-01                     | RESULTS OF TESTS FOR FORCE, MOMENT, PRESSURE AND AEROELASTIC DATA USING THE O.030 SCALE PRESSURE LOADS SPACE SHUTTLE ORBITER MODEL (47-0) IN THE NASA/ARC 11 FOOT UNITARY PLAN WIND TUNNEL. (OA400)              |
| 2482                       | 160,815              | V-02                     | RESULTS OF TESTS FOR FORCE, MOMENT, PRESSURE AND AEROELASTIC DATA USING THE O.030 SCALE PRESSURE LOADS SPACE SHUTTLE ORBITER MODEL (47-0) IN THE NASA/ARC 11 FOOT UNITARY PLAN WIND TUNNEL. (OA400)              |
| 2482                       | 160,816              | V-03                     | RESULTS OF TESTS FOR FORCE, MOMENT, PRESSURE AND AEROELASTIC DATA USING THE O.030 SCALE PRESSURE LOADS SPACE SHUTTLE ORBITER MODEL (47-0) IN THE NASA/ARC 11 FOOT UNITARY PLAN WIND TUNNEL. (OA400)              |
| 2483                       | 167,357              | V-01                     | RESULTS OF A TEST OF THE FULL-SCALE NASA ORBITER VERTICAL TAIL (MODEL 111-0) IN THE AEDC 16 FOOT PROPULSION WIND TUNNEL (OS49)   |

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| 2483                       | 167,358              | V-02                     | RESULTS OF A TEST OF THE FULL-SCALE NASA ORBITER VERTICAL TAIL (MODEL 111-0) IN THE AEDC 16 FOOT PROPULSION 23[ %2[ & 1[[6 .3\49.  |
| 2484                       |                      | LA141                    | ** DOCUMENTATION NOT COMPLETE **   |
| 2485                       | 167,361              | OS50/OS50A               | RESULTS OF VENT PORT TPS LOADS TESTS IN THE AMES RESEARCH CENTER (ARC) 11X11-FOOT WIND TUNNEL USING MODEL 113-0 (OS50/OS50A)   |
| 2486                       | 167,368              | V-01                     | RESULTS OF WIND TUNNEL TEST OA253 IN THE AEDC 16-T PROPULSION WIND TUNNEL USING A 0.035-SCALE SS LAUNCH VEHICLE MODEL 84-OTS & ENTRY VEHICLE MODEL 84-0  |
| 2486                       | 167,369              | V-02                     | RESULTS OF WIND TUNNEL TEST OA253 IN THE AEDC 16-T PROPULSION WIND TUNNEL USING A 0.035-SCALE SS LAUNCH VEHICLE MODEL 84-OTS & ENTRY VEHICLE MODEL 84-0  |
| 2487                       | 167,362              | OS43/OS51/OS51B/OS       | RESULTS OF AMES GAP FILLER TESTS USING TEST FIXTURE 96-0 IN THE NASA/AMES 11X11-FOOT TUNNEL (OS43.OS51.OS51B.OS51C)  |
| 2488                       | 160,835              | OS300                    | PRELIMINARY SCREENING TESTS OF THE SPACE SHUTTLE AFPSI MATERIAL USING MODEL 115-0 IN THE NASA/AMES RESEARCH CENTER 2X2 FOOT TRANSONIC WIND TUNNEL (OS300)  |
| 2489                       | 167,366              | OS56                     | RESULTS OF A WIND TUNNEL TEST ON THE SPACE SHUTTLE UMBILICAL PURGE CURTAIN IN THE AEDC 16-T PROPULSION WIND TUNNEL (PWT), USING MODEL 108-0 (OS56)   |
| 2490                       | 167,349              | V-01                     | TEST RESULTS FROM THE NASA/ROCKWELL INTERNATIONAL SPACE SHUTTLE O.0175-SCALE ORBITER MODELS 56-0/60-0 AND O.04-SCALE ORBITER FOREBODY MODEL 83-0 CONDUCTED IN THE AEDC/VKF-B 50-INCH HYPERSONIC WIND TUNNEL (TESTS OH109 & OH109B) |
| 2490                       | 167,350              | V-02                     | TEST RESULTS FROM THE NASA/ROCKWELL INTERNATIONAL SPACE SHUTTLE O.0175-SCALE ORBITER MODELS 56-0/60-0 AND O.04-SCALE ORBITER FOREBODY MODEL 83-0 CONDUCTED IN THE AEDC/VKF-B 50-INCH HYPERSONIC WIND TUNNEL (TESTS OH109 & OH109B) |
| 2490                       | 167,351              | V-03                     | TEST RESULTS FROM THE NASA/ROCKWELL INTERNATIONAL SPACE SHUTTLE O.0175-SCALE ORBITER MODELS 56-0/60-0 AND O.04-SCALE ORBITER FOREBODY MODEL 83-0 CONDUCTED IN THE AEDC/VKF-B 50-INCH HYPERSONIC WIND TUNNEL (TESTS OH109 & OH109B) |
| 2491                       | 167,659              | V-01                     | RESULTS OF INVESTIGATIONS ON THE O.020-SCALE OV-102 CONFIGURATION SPACE SHUTTLE VEHICLE ORBITER MODEL 106-0 IN THE USAF/AEDC VKF TUNNEL B (OA258)  |
| 2491                       | 167,660              | V-02                     | RESULTS OF INVESTIGATIONS ON THE O.020-SCALE OV-102 CONFIGURATION SPACE SHUTTLE VEHICLE ORBITER MODEL 106-0 IN THE USAF/AEDC VKF TUNNEL B (OA258)  |

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| 2491                       | 167.661              | DA258                    | RESULTS OF INVESTIGATIONS ON THE O.020-SCALE OV-102 CONFIGURATION SPACE SHUTTLE VEHICLE ORBITER MODEL 106-0 IN THE USAF/AEDC VKF TUNNEL B (DA258)   |
| 2491                       | 167.662              | DA258                    | RESULTS OF INVESTIGATIONS ON THE O.020-SCALE OV-102 CONFIGURATION SPACE SHUTTLE VEHICLE ORBITER MODEL 106-0 IN THE USAF/AEDC VKF TUNNEL B (DA258)   |
| 2492                       | 167.359              | OH107                    | RESULTS OF THE SSV ELEVEN GAP HEATING TESTS USING THE O.025-SCALE SPACE SHUTTLE ORBITER MODEL (94-0) IN THE AEDC/VKF HYPERSONIC WIND TUNNEL B (OH107)   |
| 2493                       | 167.665              | DA259                    | RESULTS OF INVESTIGATIONS OF THE O.010-SCALE OV-102 CONFIGURATION SPACE SHUTTLE VEHICLE ORBITER MODEL 72-0 IN THE NASA/AEDC VKF TUNNEL 3 (DA259)  |
| 2493                       | 167.666              | DA259                    | RESULTS OF INVESTIGATIONS OF THE O.010-SCALE OV-102 CONFIGURATION SPACE SHUTTLE VEHICLE ORBITER MODEL 72-0 IN THE NASA/AEDC VKF TUNNEL B  |
| 2494                       | 167.360              | OH108                    | AERODYNAMIC HEATING TESTS OF A O.10-SCALE SS ORBITER ELEVEN/ELEVEN GAP MODEL 93-0 IN THE NASA/ARC 3.5 FOOT HYPERSONIC WIND TUNNEL (OH108)   |
| 2495                       | 160.844              | OH110                    | TEST RESULTS FROM THE NASA/ROCKWELL INTERNATIONAL SPACE SHUTTLE O.0175-SCALE ORBITER MODELS 56-0/60-0 AND THE O.04-SCALE ORBITER FOREBODY MODEL 83-0 CONDUCTED IN THE NASA/ARC 3.5-FOOT HYPERSONIC WIND TUNNEL (TEST OH110) |
| 2496                       | 167.380              | OH111                    | RESULTS OF THE TRANSATLANTIC ABORT MANEUVER TEST(OH111) USING THE O.0175-SCALE 56-0 AND 60-0, AND THE O.04-SCALE 83-0 THIN SKIN THERMOCOUPLE MODELS IN THE AEDC VKF TUNNEL B HYPERSONIC WIND TUNNEL(OH111)                  |
| 2496                       | 167.381              | OH111                    | RESULTS OF THE TRANSATLANTIC ABORT MANEUVER TEST(OH111) USING THE O.0175-SCALE 56-0 AND 60-0, AND THE O.04-SCALE 83-0 THIN SKIN THERMOCOUPLE MODELS IN THE AEDC VKF TUNNEL B HYPERSONIC WIND TUNNEL(OH111)                  |
| 2496                       | 167.382              | OH111                    | RESULTS OF THE TRANSATLANTIC ABORT MANEUVER TEST(OH111) USING THE O.0175-SCALE 56-0 AND 60-0, AND THE O.04-SCALE 83-0 THIN SKIN THERMOCOUPLE MODELS IN THE AEDC VKF TUNNEL B HYPERSONIC WIND TUNNEL(OH111)                  |
| 2497                       |                      | MA34                     | ** DOCUMENTATION NOT COMPLETE **  |
| 2498                       | 167.656              | DA255/DA256              | RESULTS OF SPACE SHUTTLE ORBITER (MODEL 70-0) LATE ENTRY RCS YAW JET EFFECTS TESTS IN THE NASA/LARC UPWT AND 16-FT. WIND TUNNELS (DA255/DA256)  |
| 2499                       | 160.836              | DA164                    | RESULTS OF TESTS USING A O.36-SCALE MODEL (76-0) OF THE SSV ORBITER 101 IN THE NASA/AMES RESEARCH CENTER 40X80-FOOT SUBSONIC WIND TUNNEL(OA164)   |

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| 2500                       | 160,848              | OS301                    | PHASE II SCREENING TEST OF AFRSI MATERIAL USING MODEL 115-O IN THE AMES RESEARCH CENTER 2X2-FOOT TRANSONIC WIND TUNNEL (OS301)   |
| 2501                       | 167,373              | OS304A                   | SPACE SHUTTLE AFRSI OMS PODS/JOINTS DEVELOPMENT TEST USING MODEL 116-O SPECIMENS & MODEL 96-O TEST FIXTURE IN THE AMES RESEARCH CENTER 11X11-FOOT TRANSONIC WIND TUNNEL (OS304A)                                     |
| 2502                       | 167,378              | OS304B                   | SPACE SHUTTLE AFRSI OMS PODS/JOINTS DEVELOPMENT TEST USING MODEL 116-O SPECIMENS AND MODEL 81-O TEST FIXTURE IN THE AMES RESEARCH CENTER 9X7-FOOT SUPERSONIC WIND TUNNEL (OS304B)                                    |
| 2503                       | 167,363              | OS53A/OS53B              | RESULTS OF COMBINED LOADS ORBITER TEST (CLOT) IN THE NASA/LARC 8-FOOT TPE USING THREE CONFIGURATION 20 TPS FLOW TEST PANELS (OS53A/B)  |
| 2504                       | 167,379              | OS302B                   | SPACE SHUTTLE AFRSI LARGE-SCALE DEVELOPMENT TEST USING MODEL 117-O SPECIMENS AND MODEL 81-O TEST FIXTURE IN THE AMES RESEARCH CENTER 9X7-FOOT SUPERSONIC WIND TUNNEL (OS302B)  |
| 2505                       | 167,376              | OS46A-G                  | RESULTS OF ASCENT AERODYNAMIC LOADING TESTS OF THE SS THERMAL PROTECTION SYSTEM (TPS) IN & AROUND THE ORBITER/ET UMBILICAL DOOR & CAVITY. USING MODELS 108-O & 109O IN THE AEDC 16-T PROPLSION WIND TUNNEL (OS46A-G) |
| 2506                       | 167,384              | OS60.1.2.3               | GAP FILLER REUSE TESTS OF FULL-SCALE SPACE SHUTTLE ORBITER TILE ARRAY MODELS IN THE NASA/ARC 9X7-FOOT AND 11-FOOT UNITARY PLAN WIND TUNNEL (OS60.0S61A.0S61B.0S62.0S62A. AND OS63)                                   |
| 2507                       | 167,683              | MA33A/B                  | RESULTS OF INVESTIGATIONS OF THE SPACE SHUTTLE ORBITER ONE-QUARTER-HERTZ OSCILLATION ANOMALY IN THE NASA/AMES RESEARCH CENTER 11X11-FOOT AND 9X7-FOOT WIND TUNNELS USING O.02-SCALE MODEL 106-O (MA33A/B)            |
| 2508                       | 167,650              | OS306A/B                 | SPACE SHUTTLE AFRSI DESIGN CRITERIA DEVELOPMENT TESTS IN THE NASA/AMES RESEARCH CENTER 11X11-FOOT AND 9X7-FOOT WIND TUNNELS USING MODEL 23-O (OS306A/B)  |
| 2509                       | 167,654              | OA307A/B                 | SPACE SHUTTLE FRCI-12 TPS TILE VENTING TEST IN THE NASA/AMES RESEARCH CENTER 11X11-FOOT AND 9X7-FOOT WIND TUNNELS (OA37A/B)  |
| 2510                       | 167,651              | OS309A                   | SPACE SHUTTLE AFRSI FULL-SCALE CREDIBILITY TEST IN THE NASA/AMES RESEARCH CENTER 11X11-FOOT WIND TUNNEL USING MODEL 124-O INSTALLED IN THE 96-O TEST FIXTURE (OS309A)  |

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| 2511                       | 167,669              | IA300                    | RESULTS OF COLD PLUME TESTS OF THE 0.010-SCALE MODEL (75-OTS) IN THE NASA/AMES RESEARCH CENTER 11X11-FOOT WIND TUNNEL (IA300)                                     |
| 2511                       | 167,670              | IA300                    | RESULTS OF COLD PLUME TESTS OF THE 0.010-SCALE MODEL (75-OTS) IN THE NASA/AMES RESEARCH CENTER 11X11-FOOT WIND TUNNEL (IA300)                                     |
| 2511                       | 167,671              | IA300                    | RESULTS OF COLD PLUME TESTS OF THE 0.010-SCALE MODEL (75-OTS) IN THE NASA/AMES RESEARCH CENTER 11X11-FOOT WIND TUNNEL (IA300)                                     |
| 2512                       | 167,667              | OA308                    | BOUNDARY LAYER TESTS OF THE SPACE SHUTTLE AFRSI MATERIAL IN THE NASA/AMES RESEARCH CENTER 2X2-FOOT TRANSONIC WIND TUNNEL (OA308)                                  |
| 2513                       | 167,678              | OS313                    | SPACE SHUTTLE AFRSI GAP FIX TEST OS313 IN THE AEDC/USAF 16T TRANSONIC PROPULSION WIND TUNNEL USING MODEL 129-0 INSTALLED IN THE MODEL 96-0 TEST FIXTURE           |
| 2514                       | 167,687              | FA301                    | ** DOCUMENTATION NOT COMPLETE **  |
| 2515                       | 167,684              | OS305-1/5                | POST-TEST DATA REPORT FOR THE SPACE SHUTTLE FULL-SCALE AFRSI SEQUENCE OF ENVIRONMENTS TEST (OS305-1 TO 5) IN THE NASA/AMES RESEARCH CENTER 11X11-FOOT WIND TUNNEL |
| 2516                       | 167,688              | OS311                    | ** DOCUMENTATION NOT COMPLETE **  |
| 2517                       | 167,689              | OS314A/B/C               | ** DOCUMENTATION NOT COMPLETE **  |

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